

The CALIFORNIA VETERINARIAN



MID-WINTER CONFERENCE

SAN LUIS OBISPO — JANUARY 9, 10, 11, 1950

A Christmas Letter



DEAR DOCTOR:

Remember when you were young, say about eight or ten years old, how eagerly you looked forward to Christmas? Remember how about the middle of November you assumed the mantle of angelic righteousness, refrained from stealing jam, pulling the cat's tail, pinching little brother—in fact, how you abandoned all the delights of your age just because you were told Santa Clause was apt to forget bad little boys?

Remember, too, how long the days became and how slowly they passed, until it seemed that Christmas never would arrive? But when at last Christmas Eve did come, remember how excited you were, how many times you asked Mother or Dad whether they were sure Santa Claus had received your list of gifts wanted? How you picked out your best and biggest stocking to hang on the mantelpiece, and finally crept off to bed early so that in sleep the time would pass?

Then, after a restless night, remember how eagerly you crept down stairs about five in the morning and found your stocking full of candy, nuts, and oranges? And there was a Christmas tree, too, with everything you had asked Santa for? Remember how excited you were, how full of joy and happiness? Those were the days of real Christmases.

Well, I hope just such merry joy and happiness will be yours this Christmas and that, in spirit you will become a child again—for that is the way to make Christmas merry. Coupled with this wish is another—that you and yours this New Year may be healthy, happy, and prosperous.

Sincerely,

CHARLES S. TRAVERS

Norden BOROFOAM BOLETS

Borofoam Bolets have the antibacterial action of sulfanilamide, exert an oxidizing, a deodorizing and detergent effect, and have a foaming action.

Use as an adjunct in intrauterine therapy in cases of retained placenta and purulent metritis.

Bottle 25 \$2.00 4-25 \$7.75



Easy to Use • Economical • Dependable

Norden BOLET Products

KRAMECHU BOLETS

Kramechu powder in bolet form.

SULFANILAMIDE BOLETS

For quick action against infection.

CARBOLETS

Charcoal in bolet base.

RUMOLETS

Stimulant for cattle.

CARMINATIVE BOLETS

For indigestion and colic.

SULFA-UREA BOLETS

For intrauterine therapy.

PURGATIVE BOLETS

Produce purgation in 6-12 hours.

Order from your nearest Norden Service Branch

NORDEN LABORATORIES

"The Mark
LINCOLN



of Quality"
NEBRASKA

Solulexin 10-unit folic

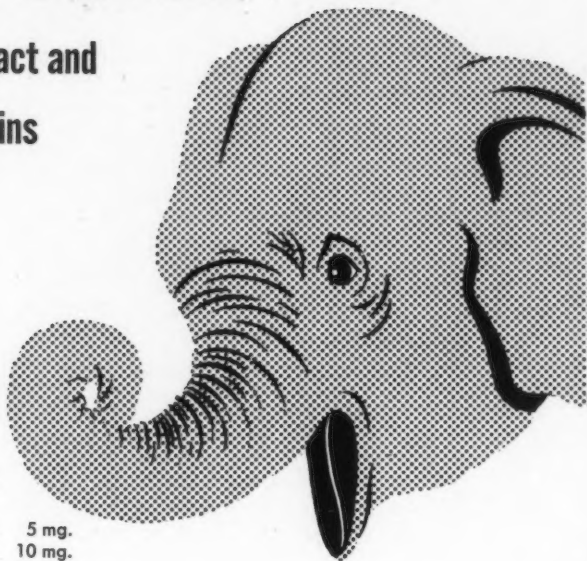
desiccated liver extract and
high potency B vitamins

- INJECTABLE
- POTENT
- STABLE
- EFFECTIVE

Each vial contains:

Liver Extract, dried, derived from 10
U.S.P. Units (Injectable)

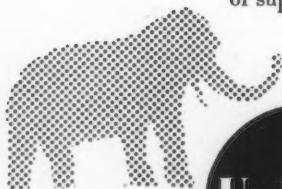
Folic Acid	5 mg.
Thiamine Hydrochloride	10 mg.
Riboflavin	10 mg.
Pyridoxine Hydrochloride	5 mg.
Sodium Pantothenate	50 mg.
Nicotinamide	250 mg.
Phenol, negligible but not more than	5 mg.



Solulexin* 10-Unit Folic is of therapeutic value in all species of animals whenever injectable liver and B vitamins are indicated. Solulexin 10-Unit Folic exerts a marked supportive effect in such disease conditions as leptospirosis, distemper, parasitic infections, nutritional anemia, and intestinal infections. In addition, Solulexin 10-Unit Folic is useful in those nonspecific infections where anorexia is a problem and during slow convalescence. Available in boxes of 5, 25, 50, and 100, 10cc. size vials with 5 cc. ampoules sterile water for injection from Upjohn branch offices or through your local sources of supply.

Write for the veterinary Solulexin leaflet.

**Trademark, Reg. U. S. Pat. Off.*



fine pharmaceuticals since 1886



DEPARTMENT OF VETERINARY MEDICINE

ATLANTA • BOSTON • CHICAGO • CLEVELAND • DALLAS • KALAMAZOO • KANSAS CITY • LOS ANGELES • MEMPHIS • MINNEAPOLIS • NEW YORK • PORTLAND • SAN FRANCISCO • TORONTO, ONTARIO

An Unmeasured Reality—

THE WORLD-WIDE ATTACK ON ANIMAL ILLS

A prominent authority on human affairs (*Science News Letter*, Sept. 3, 1949) reminds the world of its debt to the veterinary service by pointing out how applied veterinary science "saves meat and milk and shoes and saddles and (for all the motor age) a great deal of transportation and farm power," not to mention that:

International cooperation in fighting animal diseases has become a "must do" in the face of famine-producing plagues and such constant perils as anthrax, tuberculosis, brucellosis, rabies, and a whole array of other threats to human health and industrial progress that yield only where veterinarians step in to control them.

The fact that the whole world is beginning to comprehend the functions of applied veterinary medicine must be quite a disappointment to those who flout the virtue of college-trained guardians of animal health.

THE CORN STATES SERUM COMPANY

Omaha, Nebraska

Central City Chemical Consolidated

Sales to Graduates Only

Distributors for

Haver-Glover Laboratories

Ashe-Lockhart Inc.

Corn States Serum Company

Winthrop-Stearns Inc.

Goshen Laboratories

Ciba Pharmaceutical Products Co.

Wallace Laboratories

Martin Laboratories

(Mastics)



617 HOWARD STREET

SUtter 1-2644

SAN FRANCISCO 5, CALIF.

What the Veterinary Profession *Means to Mankind*



YOUR FRIEND OR ENEMY?

Do you know that this vaccinating needle can infect your livestock, as well as protect or CURE them? In trained hands it can save your animals from disease. If used carelessly it can actually SPREAD disease. It can pass germs on from unknown "carrier" animals to healthy ones. The virus of cholera can be spread by contaminated syringes and needles. Improperly sterilized needles can produce serious infections. Don't take such chances! When drugs or vaccines are to be injected beneath the skin of YOUR animals, consult your veterinarian. His scientific skill costs little . . . may mean the difference between SAFETY and serious LOSSES.

AMERICAN FOUNDATION FOR ANIMAL HEALTH

THIS MESSAGE

is appearing
in leading farm
magazines
this month,
sponsored by
**ASSOCIATED
SERUM
PRODUCERS**



MEMBER COMPANIES

Allied Laboratories,
Inc.

Blue Cross Serum Co.

Corn Belt
Laboratories, Inc.

Fort Dodge
Laboratories, Inc.

Grain Belt Supply Co.

Jensen-Salsbery
Laboratories, Inc.

Liberty Laboratories
Missouri Valley Serum
Co.

Norden Laboratories

Pitman-Moore Co.

Sioux City Serum Co.

Sioux Falls Serum Co.

The Columbus Serum Co.

The Corn States
Serum Co.

The Gregory
Laboratory

The National
Laboratories Corp.

The Royal Serum Co.

The Southwestern
Serum Co.

The United Serum Co.

SULMET*
Sodium Sulfamethazine
SOLUTION INJECTABLE

To be dispensed by or on the
prescription of a veterinarian

Lederle

A highly professional product—permanently clear—pyrogen-free—sterility-tested—packaged as a 25% w/v solution to give you the most drug at the lowest cost—indicated in the treatment of acute bacterial infections in horses, mules, foals, cattle, calves, sheep, swine, dogs, and cats.

SULMET Sulfamethazine possesses more therapeutic advantages for acute bacterial diseases in more animal species than any other sulfonamide or combination of sulfonamides.

It gives maximum effectiveness against a wide range of species of bacteria and coccidia—with minimum toxicity—and sustains high blood concentrations on once-a-day medication. The immediately established *higher* blood levels overcome infection sooner, more animals are saved, and the period of sickness is shortened.

SULMET Sodium Sulfamethazine SOLUTION INJECTABLE 25% w/v is priced low to give great economy per animal treated.

*Reg. U. S. Pat. Off.

Packages: Vials of 250 cc. and 500 cc.

LEDERLE LABORATORIES DIVISION

AMERICAN Cyanamid COMPANY

30 Rockefeller Plaza

New York 20, N. Y.

NOW!

**PROMPT
CONTROL
OF**

**PNEUMONIA
HEMORRHAGIC SEPTICEMIA
FOOT ROT**

Merameth[®]

sterile solution

*Sodium Sulfamerazine 5% and Sodium Sulfamethazine 5% Combined in a
Sterile Solution for Parenteral Administration*

Prompt control of acute bacterial infections such as pneumonia, hemorrhagic septicemia (shipping fever), foot rot in cattle and septicemias is accomplished by parenteral administration of **MERAMETH** Sterile Solution, a combination of sodium sulfamerazine 5% and sodium sulfamethazine 5%.

MERAMETH Sterile Solution may be injected intravenously, intramuscularly, intraperitoneally, or subcutaneously. It also may be administered by intramammary infusion for the treatment of mastitis.

Supplied: No. 2324—Bottles of 500 cc.

Dispensed only by or on the prescription of a veterinarian.

This new, highly effective sulfonamide combination provides the following advantages:

- 1.** Prompt therapeutic blood levels after parenteral administration.
- 2.** Effective blood levels for 24 hours after a single intravenous dose.
- 3.** Antibacterial action equal to total concentration of both drugs.
- 4.** Marked decrease in acute and chronic toxicity.

VETERINARY DIVISION Sharp & Dohme PHILADELPHIA 1, PA.

Branches: Atlanta • Baltimore • New York • Denver • Memphis • Los Angeles • Columbus • Boston
Chicago • Portland • San Francisco • Kansas City • Dallas • St. Louis • New Orleans • Minneapolis

THE CALIFORNIA VETERINARIAN

*when you want
what you want
when you want it*

FORT DODGE

**TWO CALIFORNIA AGENCIES
TO SERVE YOU PROMPTLY**

**H. C. Burns Company
In Oakland**

541 E. Eighth St. — TEmplebar 4-8911

**California Veterinary Supply Co.
In Hollywood**

1315 N. Highland Ave. — HEMpstead 3751

Fort Dodge Laboratories, Inc., Fort Dodge, Iowa

For Better Management of MASTITIS Administer Penicillin in



PENICLE® *Antibiotic Vehicle*

It is important to maintain effective concentrations of penicillin in the affected udder until all *S. agalactiae* have reached the stage of division—when they are susceptible to the drug.

A single injection of penicillin-in-PENICLE establishes therapeutic levels of the drug in the lactating udder, and maintains them for at least three days or six milkings. In a majority of cases, this is sufficient time to ensure that even slowly dividing strains will be killed. In some instances, however, a second injection may be necessary after three days to destroy the penicillin-sensitive organisms which were dormant or not dividing during the first seventy-two-hour period.

PENICLE is a water-in-oil emulsion which offers outstanding advantages as a retaining vehicle in antibiotic therapy. The use of

PENICLE with penicillin in the treatment of bovine mastitis due to *S. agalactiae* results in better dispersion of the drug throughout the gland, and maintenance of therapeutic levels for a longer period in the affected quarter. With PENICLE, *frequent injections are not required; control of therapy remains in the hands of the veterinarian.*

PENICLE is sold only to graduate veterinarians. You can use the soluble crystalline penicillin of your choice in PENICLE.

SUPPLIED: Bottles containing 100 cc.

SEND FOR COMPLETE LITERATURE



WALLACE LABORATORIES, INC.

53 PARK PLACE NEW YORK 8, N. Y.

I. Foley, E. J.; Stultz, A. W.; Lee, S. W., and Byrne, J. V.: *Am. J. Vet. Research* 10: 66 (Jan.) 1949.

THE CALIFORNIA VETERINARIAN

NOVEMBER-DECEMBER, 1949

Contents

A Christmas Letter from Charles S. Travers.....	2	Calif. State Vet. Med. Assn. Mid-Winter Conference	18, 19
Women's Auxiliary Scholarship at Davis, Atha Miller	12	Status of Bovine Tuberculosis in California, A. K. Carr.....	20
Profile of Dr. Clyde B. Outhler, Reuben Albaugh.....	13	Veterinarians Needed in Mexico.....	21
Bovine Trichomoniasis, H. S. Cameron.....	14	Veterinary Clinic Gives Davis Students Training.....	21
Dr. Jim Jacks Retires from Cutter's.....	15	Recent Developments in Rumen Physiology, E. C. Stone.....	22
Monterey Bay Area VMA Holds Meeting.....	15	Foreign Quarantine Regulations.....	23
Arizona State Meet.....	15	Intratracheal Narcosis in Small Animals, E. J. Voute, H. A. Hannema.....	24
Question and Answer Section.....	15	A Message from the Secretary.....	26
California State Polytechnic College Host to Convention, Robert Kennedy.....	16	Women's Auxiliary Notes, Mrs. H. I. Ott.....	26
Applications	16	The Secretary's Scrap Book.....	27
Recent Veterinary Medicine Books.....	16	A Call for Help.....	28
McPhee Extends Welcome, Julian McPhee.....	17	Opportunities	28
Featured at the Convention.....	17	Local Associations and Committees.....	29
Transportation and Reservations for the Conference	17		

Index to Advertisers

Animal Research Laboratories.....	34	Lederle Laboratories, Inc.....	7, 33
Ashe Lockhart, Inc.....	30	National Casualty Co.....	31
Associated Serum Producers.....	6	Norden Laboratories	3
H. C. Burns Co.....	12	Pitman-Moore Co.....	35
Central City Chemical Consolidated.....	5	Sharp & Dohme.....	8
Corn States Serum Co.....	5	Upjohn	4
Fort Dodge	9	Vitamineral Products Co.....	31
Haver-Glover Laboratories	32	Wallace Laboratories, Inc.....	10
Jensen-Salsbery Laboratories, Inc.....	Back Cover		

Officers

F. P. WILCOX	President	FLOYD WHITE	First Vice-President
OSCAR J. KRON	Treasurer	C. E. WICKTOR	Second Vice-President
CHARLES S. TRAVERS	Executive Secretary	A. R. INMAN	Third Vice-President
T. A. BERRY.....	Sergeant-at-Arms		

Executive Committee

FLOYD H. WHITE, Chairman			
F. P. WILCOX	OSCAR J. KRON	C. E. WICKTOR	S. T. MICHAEL
	A. R. INMAN	PAUL DELAY	

Board of Governors

PRESIDENT F. P. WILCOX	PAST PRESIDENT S. T. MICHAEL
FIRST VICE PRESIDENT FLOYD WHITE	

Editorial Staff

CHARLES S. TRAVERS	E. F. SHEFFIELD	C. M. HARING
--------------------	-----------------	--------------

Associate Editors

Small Animals—E. C. JONES, G. M. SIMMONS	Large Animals—CHARLES H. REID, E. G. LE DONNE
Research—J. R. BEACH, H. S. CAMERON, D. C. LINDLEY	
Public Health—F. P. WILCOX, L. M. HURT, A. G. BOYD	
Animal Sciences—W. E. MADERIOUS, GEORGE H. HART	

Volume 3

Published Bi-Monthly by the California State Veterinary Medical Association, 3004 16th Street, San Francisco 3, California. Devoted to promote Veterinary Science, to increase the esteem of the general public for the Veterinarians, to protect his rights and privileges and to elevate the standard of the profession generally in scientific intercourse. Address all communications to The California State Veterinary Medical Association, Charles S. Travers, Executive Secretary. Please notify us immediately of incorrect or change of address.

Unsolicited manuscripts are at sender's risk, and when received will not be returned unless accompanied by return postage. The Association is not responsible for the views of contributors and we reserve the right to edit and condense articles. Advertising rates will be furnished upon request.

(Copyright, 1949, by California State Veterinary Medical Assn.—Reproduction Prohibited Without Permission)

Number 2



H. C. Burns Co., Inc.

4 PROVEN BUCO "FIRSTS"

1. Bu-Pheno-Sul Boltabs

Provides in a convenient size an effective and economical worm treatment for cattle and horses. Contains Phenothiazine 23.85 grams; Iron Sulfate, Copper Sulfate and Cobalt Sulfate. Packed in 12's and 50's.

2. Amino-Vit-Oral

The first and foremost amino acid, vitamin and mineral liquid tonic in a palatable base. Especially effective as an appetite stimulating tonic for saddle, polo, and racing horses. Contains essential amino acids, vitamins and minerals. Merely mix with feed daily. Packed in Pints and Gallons.

3. Bu-Curare

Widely used muscular relaxant in the human field and now available to the veterinarian. Useful in reducing fractures; arthritis and rheumatism; muscular sprains and strains; Tetanus & Strychnine spasticities; encephalitis (fits); shock therapy; and to reduce the amount of anesthetic required in surgical anesthesia. Packed in 10 cc and 30cc vials.

4. Fungoint (Improved)

The addition of Benzocaine to this proven medicament provides the practitioner with an outstanding fungicide and bactericide for topical use. Available in liquid-lanolin base and vanishing cream ointment. It has been successfully used in a variety of conditions such as ringworm, cowpox, ear canker, wounds, dermatitis, etc.

*Have you tried Ft. Dodge's "Intragel"? It has proven outstanding in the control of internal hemorrhage and shock. Packed in 125cc, 250cc, 500cc diaphragm stopper bottles. Recommended dose 10cc/lb. body weight.

**At last! Imported German pre-war type stainless steel Alligator Forceps at almost pre-war prices. (20% below American made). Limited number available in 3 1/2" and 6 1/2" shanks. First shipment due to arrive this month.

For the Graduate Veterinarian Only.

**541 EAST EIGHTH STREET
OAKLAND 6, CALIF.**

Women's Auxiliary Scholarship at Davis

By ATHA MILLER, *President CSVMA
Women's Auxiliary*

The Women's Auxiliary to the California State Veterinary Medical Association has now completed plans—and authorized at the last Annual Meeting—a Loan Fund for worthy students of Veterinary Medicine at our own California school at Davis. Already we have in a savings account of our organization the sum of \$400 as a start.

Various plans for augmenting this fund have been advanced. We feel the most constructive is to make a drive for new members in our organization, each of whom would net us \$1.00. In the past the dues were used for entertainment at our conventions and the majority of those who joined were those who attended. There seemed to be no point, in the opinion of the others, for contributing to entertainment in which they did not participate. We are now in a far different position and believe that all the wives of veterinarians who belong to the State organization will want to help with the Scholarship Fund.

The California State Veterinary Medical Association has this past year allotted money to pay for the entertainment for the Auxiliary at our State Meetings and our registration fees more than cover the incidental expenses. At both the January meeting and the June meeting a small percentage of registration money was needed for this and much of Registration Fees went into the Loan Fund besides all of the Membership Fees.

We are making an appeal to all ladies whose husbands belong to the California State Veterinary Medical Association to take paid up memberships at \$1.00 each. Of course we would be glad to receive memberships to the AVMA Auxiliary at \$1.00 additional but our special effort is California memberships.

In reference to the AVMA Auxiliary, we are rated according to the percentage of memberships of our State organization who belong to the National. As we now have the honor of having our own Junior Past President—Mrs. Charles H. Reid—as the Treasurer of the AVMA Auxiliary, it would be nice to at least keep our place near the top.

Dues are payable to Mrs. E. V. Edmonds, Vice-President, and Mrs. H. I. Ott, Secretary-Treasurer.

Campus Tour

All veterinarians attending the conference are invited to take a tour of the Cal Poly campus Monday morning, January 9th, from 9 a.m. to 12 noon. A bus will pick up those who wish to go on the tour at the Anderson Hotel at 9 a.m. Following the tour of the campus the bus will return to the Anderson Hotel at noon.

Profile of Dr. Clyde B. Outhier

By REUBEN ALBAUGH, *Salinas, California*

Back a few years before the turn of the century, Clyde B. Outhier, a Missouri farm boy, was breaking horses for the U. S. Army Remount Service, "riding the rough string," so to speak.

While working with his father and uncle who were horse importers and dealers in the "show me" state, he developed a great interest and love for the horse. He had a deep desire to do more than train horses; he wanted to learn something about their anatomy and some of the scientific fine points, especially in connection with disease control.

He enrolled in the San Francisco Veterinary College and was graduated with high and flying colors in 1902. He started a practice immediately in Santa Cruz, but soon left for the rich and fertile Salinas Valley.

At that time large numbers of horses were used in the harvesting of crops, handling cattle and for transportation of people. Consequently, most of this work until 1915 had to do with horses. About that time dairying became very prominent in Monterey County and his practice changed from horses to dairy and beef cattle.

About 1925 the picture again changed. When the "green gold" lettuce crop was introduced it forced the black and white dairy cow into the background and much of the land on which dairying was done was used to grow vegetables to supply the eastern and midwestern markets. At that time Dr. Outhier's practice was converted to small animals and this has continued up until his retirement this year.

In March, 1925, the Monterey County Board of Supervisors appointed Dr. Outhier as county livestock inspector, the position which he held with dignity and honor all these years. In this capacity he worked closely with the Agricultural Extension Service of the University of California and with the research division of that institution. He points with pride to his part in the Brucellosis control program carried on the past eight years in this county for the purpose of obtaining scientific data on how this disease could be controlled by calfhood vaccination. He attended many livestock meetings and kept up to date on new methods of disease control during all these years.

In 1930, with the late Mrs. Outhier (the former Rowena Wyatt) and his daughter Betty Ann, he toured Europe with members of the American Veterinary Association. Some of the companions on this trip for whom he had high regard were Dr. George Hart, dean



DR. CLYDE B. OUTHIER

of the veterinary college at Davis; Dr. John R. Moehler, chief of the Bureau of Animal Industry, U.S.D.A.; and Dr. W. E. Cotton, who is one of the originators of the strain 19 vaccine for Brucellosis control.

In addition to being a member of the American Veterinary Association, Dr. Outhier has been a member of the California State Veterinary Medical Association since 1905. He has been very active in civic affairs in Monterey County and is affiliated with the Salinas Rotary Club, the Elks Lodge, and the Masonic Lodge. For several years he has served as a director of the Monterey County Trust and Savings Bank. Since the early days of the California Rodeo, "Doc" has served as a director and official veterinarian for that organization.

Dr. Outhier is noted throughout the livestock and veterinary world as being one of the most capable veterinarians on spaying cattle. He states that he has performed this operation on over 50,000 head of cattle. About 21,000 of these were for the famous Henry Miller, cattle king of California during the pioneer days of the livestock industry.

The exceptionally large practice built up during forty-six years of service to the county and community was recently sold to Dr. Earl Hafen and Dr. Frank Wayland.

Dr. Outhier was not only financially successful but he gained many friends during this forty-six years of practice in Monterey County. Some people do one or the other, but very few accomplish the two.

BOVINE TRICHOMONIASIS

By H. S. CAMERON, D.V.M., *Davis, California*

Trichomoniasis is defined as a venereal disease of cattle caused by *Trichomonas foetus* and characterized by early abortions, pyometra, and sterility.

The causative organism is a flagellated protozoan. It has never been found in the free living state, but only in the uterus of a pregnant cow and deep in the sheath of the male. There are no demonstrable lesions in the male, the spermatozoa are not affected and conception is not interfered with. The pregnant uterus, however, provides a favorable environment for the organism and while the embryo is developing so also are the trichomonads multiplying to such an extent that the embryo is destroyed. This may occur soon after fertilization, or it may not take place until later in the gestation period. The abortion may go unobserved depending upon the size of the fetus or the amount of exudate present in the uterus. On the other hand, the fetus may be retained for some time, and abortion occur several weeks or even months after fetal death. In such cases the fetus is in a macerated condition and accompanied by a considerable amount of exudate rather thin in consistency and somewhat brownish in color. The exudate usually contains large numbers of trichomonads. When the fetus dies and is not aborted, the cow remains in the anestrus stage and is therefore usually considered to be with calf. Rectal examination may reveal a pyometra, although in the early stages this may be confused with normal pregnancy. When early abortion occurs, estrus is usually apparent within two or three days. The abortion may not have been observed, the cow considered as having failed to conceive, and immediately rebred perhaps to another bull. At this time the organism is usually present in the vagina in large numbers with the result that the bull becomes infected. The organism will not persist in the vagina, but following abortion it usually remains for several days or even a week.

Trichomoniasis is diagnosed by herd history and microscopic examination of discharges following abortion, or by examination of semen from a suspected bull. At least a tentative diagnosis can be made by herd history and controlled measures instituted because, as we shall see later, control measures for trichomoniasis is good herd management. If the diagnosis, therefore, proves wrong, no harm has been done. The history, indicative of trichomoniasis, is the early abortions with macerated fetus, discolored exudate, and a number of animals showing delayed estrus, following service.

The diagnosis is confirmed by microscopic

examination under low power of the vaginal discharge from a cow supposedly with calf. The material should be examined as soon as possible after being taken from the cow because the organism will not survive in the free living state; it dies rapidly on drying. When present, it is recognized by a characteristic motility. The fresh organism is actively motile and can be seen moving irregularly through the field with a tadpole-like motion.

The control of trichomoniasis in a herd is not a difficult matter. When the disease is suspected, control measures should be immediately instituted. In herds where only one bull is involved, this animal should be sold for slaughter as soon as the diagnosis has been confirmed. While some cases of successful treatment in the bull have been reported, they have not always been successful. Some cases of reported cures have not been adequately followed up. I have heard of cases where the bull was treated and then sold with no subsequent history available. The method of treatment has been to administer caudal anesthesia and retract the penis and thoroughly cleanse the sheath with a non-irritating disinfectant, such as a freshly prepared chlorine solution. In the case of a valuable bull, this should be attempted. The effectiveness of the treatment may then be tested by breeding the bull to heifers. With respect to the infected cow, symptomatic treatment is necessary. That is, if pyometra is diagnosed, it should be relieved. *Trichomonas fetus* will not persist in a non-pregnant uterus. It is self limiting in the female. Cows calving normally and not bred since calving are not infected and may be bred to a clean bull. Cows bred to an infected or suspected bull, and coming back in heat should not be rebred to another bull until they have passed two normal estrus cycles. By this time, *Trichomonas* will have been eliminated from the genital tract of the female.

Where several bulls are involved, the problem is more complicated, because it has until recently been considered good practice if the cow does not conceive to one bull to breed her back to another. As we have seen from the epidemiology of this disease, a cow may come in heat a few days after aborting from trichomoniasis. If another bull is then used, he may become infected. In such herds, therefore, we will usually have one bull known to be positive and other bulls that have been exposed through breeding cows formerly bred to the infected bull. This practice is not recommended today as good management. Breeding units should be established, that is, a bull is assigned to a certain number of cows,

and if a cow fails to conceive on the first service in an apparently normal herd one heat period should be allowed to elapse. By adhering to this practice, should a disease such as trichomoniasis get into a herd, it will be limited to a group of cows and not disseminated throughout the herd. In herds where infection has been found and exposed bulls are still being used, a young Hereford bull is sometimes introduced for the purpose of breeding the known clean cows and heifers in order to keep up production.

The infection is usually introduced into a herd through the purchase of a bull that has been used in other herds; not infrequently it is the result of introducing a proven sire. In order to become proven this bull must be about six or seven years old and has been rather widely used. When such an animal is introduced into a herd, he should be observed carefully on his first breedings. The condition may also be introduced through the purchase of cows or heifers supposedly with calf. If such an animal comes in heat when she is supposedly with calf, she should not be bred, but should be examined for pregnancy; the heat may be the result of an undiscovered abortion from trichomoniasis a few days prior to coming in estrus. Bred at this time, she may infect the herd sire.

While trichomoniasis is not a widespread disease, its mode of transmission being limited, it can interfere much more seriously with reproduction than brucellosis. It does not, however, have the overall economic importance of the latter. It is a condition that the practicing veterinarian engaged in dairy cattle practice should constantly be on the look out for. When it gets a hold in the herd, he will know it. An early diagnosis is imperative if production is to be maintained. That is one reason for the systematic pregnancy examination in a dairy herd.

Dr. Jim Jacks Retires from Cutter Laboratories

Dr. Jim Jacks, well known veterinary doctor in the western livestock industry, retired from Cutter Laboratories, October, 1949.

Dr. Jacks spent almost 30 years with Cutter and retired at their automatic retirement age of 65. He was entertained at a party October 28 and was recipient of many gifts.

Dr. Jacks graduated from San Francisco Veterinary College in 1911; practiced for three years, and then joined the Bureau of Animal Industry in Cedar Rapids, Omaha, and Phoenix. In 1920 he resigned from government work and went with Cutter Laboratories in Los Angeles. In 1937 he moved to Berkeley as Veterinary Field Supervisor. He will be much missed by his many friends in the livestock industry.

Monterey Bay Area VMA Holds Meeting

Loma Linda, Watsonville, was the scene for the October meeting of the Monterey Bay Area VMA. Dr. George Friermuth presided in the absence of President Joe Harrison. Dr. William Cress, radiologist of Santa Cruz, was the main speaker on the program, which proved to be very interesting and stimulating. Their next meeting will be a Ladies' Night, December 7, at Shadow Brook Inn, Aptos, with Drs. Ruth and Jack Orsborn in charge. President Wilcox may be present.

Arizona State Meet

The Arizona State Veterinary Medical Association will hold their winter meeting, January 4th and 5th, at the Hotel Adams in Phoenix. Dr. C. H. Ozanian, southern California member of the California State Veterinary Medical Association, will speak on their program. Secretary Charles S. Travers is also expected to be a California representative on their program. Dr. Baird from Maine will be one of the speakers.

QUESTION AND ANSWER SECTION

Answers will appear in the January-February THE CALIFORNIA VETERINARIAN.

Felines

Distemper. Of what value is serum of Feline Origin in this disease?

What is the average field period of incubation?

What is the average mortality on untreated cats?

What is the average mortality on treated cats?

What is the most successful therapy, consistent with the owner's desire to pay?

How good are the current Feline Distemper Vaccines?

Is it better to delay the second inoculation more than 10 days if conditions permit?

* * *

What are the relative advantages of spaying a cat through the side as compared to the ventral incision? Disadvantages?

Canines

At what stage in the treatment of Canine Distemper does the use of serum generally cease to be of value?

What early treatment may tend to prevent the occurrence of chorea, posterior paralysis, etc.?

California State Polytechnic College Host to Convention

The doors of the California State Polytechnic College in San Luis Obispo will swing wide again on January 9, 10 and 11th to welcome to its ever-growing campus the annual Mid-winter Conference of the California State Veterinary Medical Association.

Hundreds of veterinarians throughout the state are familiar with the sprawling campus which lies nestled in the rolling hills of San Luis Obispo at the foot of the Santa Lucia mountain range—just half-way between Los Angeles and San Francisco. Some of them have attended every one of the seven mid-winter conferences which have been held on the Cal Poly campus.

Those who will be visiting the campus for the first time will undoubtedly be surprised—as are all first-time visitors—at the extent of the facilities which are used to give students an opportunity to “learn by doing.” The basis of the Cal Poly educational program is that every student must learn to “do” each and every operation in his specialized field. Every agriculture student must learn to handle horses, tractors and machinery; feed livestock, plant and harvest crops, manage ranges, make gates, feeders, watering devices and other equipment; repair, adjust and overhaul all types of farm machinery, plan rations, treat diseases, spray and prune trees, and a host of other practical skills.

Complementing these actual skills are fundamental courses in botany, chemistry, bacteriology, zoology, farm accounting, mathematics, and other subjects which give the student the “why” to add to the “how” of the skills courses. In addition, the students also receive general education courses which help them to understand the world in which they live, which assist them to express themselves, to live harmoniously with other people, and to assume responsibility and community leadership.

But lest anyone get the impression that Cal Poly is just an agricultural college, one should look at the enrollment figures for this year. At the San Luis Obispo campus the agricultural division has only a slight edge with 1,362 men while the engineering division has 1,290 men. A science and humanities division of the college, which provides the necessary science and background courses for the other two divisions, also has a new program in teacher training with majors in biological science, mathematics, physical education, physical science and social science. This division accounts for the balance of the total San Luis Obispo enrollment of 2,909 men.

There are no girls attending Cal Poly now, but present plans call for an enrollment of about 900 girls by 1953-54.

When last year's mid-winter conference was held on the campus the new \$700,000 library building was still under construction. This

year the visiting veterinarians will be invited to inspect and use this ultra-modern building which opened officially on September 12.

Most veterinarians know that Cal Poly has a Thoroughbred breeding program with barns, paddocks and pastures to accommodate eight Thoroughbred mares and their off-spring and two Thoroughbred stallions. The yearlings are sold at the California Breeders' annual sale. The California Breeders Association donates the services of outstanding stallions for these mares.

But something new has been added to the horse breeding program this year. The four million dollar, 812-acre Kellogg Arabian Horse Ranch near Pomona, with some 50 blooded Arabian brood mares and stallions, was donated to the college by the Kellogg Foundation in November.

President McPhee announced at that time that the Kellogg Ranch property would be utilized for a sound, college-level educational program based upon the same philosophy which guides the offerings at the San Luis Obispo campus and also at the southern branch, the Voorhis unit, which lies just one mile as the crow flies from the Kellogg property.

“Months of intensive study and research will have to be completed before we will be able to announce what our future plans for the Kellogg Ranch will be,” said President McPhee.

“We do know, however, that breeding of Arabian horses will continue as part of our animal husbandry program. Also as part of the agreement, we will continue the Sunday afternoon Arabian horse shows, probably starting sometime next spring,” he added.

Applications

George Beller, Huntington Park, Vouchers: Leonard Beller, D. K. Collins.

W. S. Niemeyer, Los Angeles, Vouchers: L. B. Wolcott, F. P. Wilcox.

John E. Wion, Santa Rosa, Vouchers: Charles Stafford, Robert Gobler.

Elmer Bogart, Tulare, Vouchers: Leo Henrich, Robert Dove.

Charles Crane, Porterville, Vouchers: Leo Henrich, Robert Dove.

Alexander Budurin, Tucson, Ariz., Vouchers: G. H. Kenaston and Jay Wallis.

J. B. Wight, Hawaii, Vouchers: O. W. Schalm and G. K. Cooke.

Recent Veterinary Medicine Books

VETERINARY MATERIA MEDICA AND PHARMACY, Bairacli-Levy, J. On medicinal herbs and their use in canine ailments. Serie House, 2545 Atlantic Ave., Brooklyn 33, N. Y. \$2.75, 1949.

McPhee Extends Welcome

Welcoming old friends back to our campus is always a great pleasure. And we, at the California State Polytechnic College, certainly consider the members of the California State Veterinary Medical Association as "old friends."



JULIAN A. MCPHEE

This year's mid-winter conference on the campus at San Luis Obispo will be the eighth year that the college has had the honor of acting as hosts to the men who are sentinels of both animal and human health in this state.

This annual visit of the veterinarians means a great deal to the faculty and students of the college's agricultural division. It gives our people an opportunity to hear first-hand the latest in scientific research in the field of veterinary medicine. It impresses upon our agricultural students, many of whom will have careers in the livestock production field, that for efficiency in disease prevention we must have complete cooperation between farmers and veterinarians.

I again extend my warmest personal wishes for a successful conference and a pleasant visit on our campus January 9, 10 and 11, 1950.

Sincerely yours,

JULIAN A. MCPHEE, *President,*
California State Polytechnic College.

Featured at the Convention

Once again the California State Veterinary Medical Association has chosen to hold their annual Mid-Winter Conference on the campus of California Polytechnic College at San Luis Obispo. The dates are January 9, 10 and 11, 1950.

On the agenda is Dr. George Hart, Dean of the University of California's new College of Veterinary Medicine at Davis, who will be the principal banquet speaker. He has chosen as his topic the very timely subject of the recent International Veterinary Congress and the United Nations Scientific Conference on Conservation and Utilization of Resources at Lake Success. This should be of great interest to our many members who were not fortunate enough to attend the actual conference.

From Michigan State College we will have Dr. W. O. Brinker who will talk on "The Use of Intramedullary Pins in Small Animals," and "Clinical Notes," and from Iowa State College we will have Dr. Mack Emerson who will speak on "Trichomoniasis in Cattle and Its Control," and "X-Ray Therapy of Some Diseases of Animals."

A large group of our members will participate. Among them, Dr. Paul De Lay and others will discuss "Virus Diseases of Animals Transmissible to Man." Dr. K. G. McKay and others will discuss "Sterility of Cattle." Dr. E. R. Quotrup, J. H. Bower, W. C. Bateman will discuss rabies and county control programs. Past President Dr. Michael will speak on "Veterinary Ethics." Dr. John Craig will present a film and paper on "Laboratory Diagnosis of Intestinal Infections." Dr. T. J. Hage will speak on "Diethylacarbamazine in the Treatment of Heartworms." There may be a film on foot-and-mouth disease.

Among our notable guests we will have Dr. W. M. Coffee, president-elect of the American Veterinary Medical Association.

We hope to see you all there, January 9, 10, 11, San Luis Obispo.

Transportation and Reservations for the Mid-Winter Conference, January 9, 10, 11, 1950

Convention City, San Luis Obispo, is on the main line of the Southern Pacific, directly in the path of some of the finest trains of the U. S.

Southern Pacific representatives will make arrangements for you—In San Francisco, Mr. E. H. Hagaman, phone DOuglas 2-1212, ext. 2583; In Oakland, Mr. E. Milliken, phone Templebar 2-2121, ext. 4172; In Los Angeles, Mr. M. W. Sidle, phone Michigan 6161, ext. 2704; and In San Diego, Mr. M. L. Adler, phone Main 7111.

We suggest you make your reservations as soon as possible with one of these gentlemen; if you are not located in one of the above areas your nearest S. P. agent will be glad to help.

Secretary Charles S. Travers has made arrangements with Mr. Jack White, managing owner of the Anderson Hotel, to take care of your hotel reservations.

Please make your hotel reservations as soon as you can; give the number in your party, type of room desired, arrival time, and send a \$5.00 deposit.

Your Program Committee, headed by Chairman C. E. Wicktor, has arranged an outstanding three-day program and you should try to be there.

We should make every effort to make the 1950 Conference as large a success as our past conferences have always been and if there is any way the secretary may be able to help you please remember to call upon him.

CALIFORNIA STATE VETERINARY MEDICAL ASSOCIATION

STATE POLYTECHNIC COLLEGE, SAN FRANCISCO



DR. W. M. COFFEE

Dr. W. M. Coffee, Coffee Animal Clinic, La Center, Kentucky, President-elect A.V.M.A., a native of Paducah, Kentucky, graduate of Indiana Veterinary College, 1918, has practiced in La Center for 31 years.

Dr. Coffee served as president of Kentucky State Veterinary Medical Association in 1930 and was president of the Southern Veterinary Medical Association last year.

Doctor Coffee owns and operates a 440-acre livestock farm on which his clinic is located. He has been active in promoting better livestock and agriculture in his vicinity. He is director of the Purebred Breed Association, President of West Kentucky Fair and Racing Association, member of the State Board of Agriculture of Kentucky and a member of the Board of Trustees of the University of Kentucky.

DR. W. O. BRINKER

Dr. W. O. Brinker received his degree of Doctor of Veterinary Medicine from Kansas State College in 1939, his M.S. in Animal Pathology in 1947 from the Michigan State College. From 1941 to 1945 Dr. Brinker attended the Army Meat and Dairy Hygiene School. From 1939 to 1941 and from 1946 to the present time Dr. Brinker has been Associate Professor in the Department of Surgery and Medicine, Small Animals Division, at Michigan State College. His present position includes clinical work, teaching and research.



Special Lecturers

W. O. Brinker, D.V.M., M.S., Associate Professor, Department of Surgery and Medicine, School of Veterinary Medicine, Michigan State College, East Lansing, Michigan.

W. M. Coffee, D.V.M., President-Elect, American Veterinary Medical Association, La Center, Kentucky.

M. A. Emmerson, D.V.M., M.S., Dr. Med. Vet. (Zurich), Professor and Head, Division of Veterinary Obstetrics, Iowa State College, Ames, Iowa.

W. M. Mohler, D.V.M., Pathological Division, United States Department of Agriculture, Washington, D. C.

Participating Staff University of California

Raymond B. Cowles, B.A., Ph.D., Herpetologist, Los Angeles.

J. Enright, Ph.D., Davis.

T. J. Hage, D.V.M., M.S., Assistant Veterinarian in Experiment Station, Davis.

G. H. Hart, M.D., D.V.M., Dean, College of Veterinary Medicine, Davis.

K. G. McKay, D.V.M., M.S., Extension Veterinarian, Berkeley.

S. A. Peoples, M.D., Professor of Comparative Pharmacology, Davis.

Division of Animal Industry State Department of Agriculture

E. F. Chastain, D.V.M., Los Angeles.

P. D. DeLay, D.V.M., Sacramento.

A. C. Rosenberger, D.V.M., Stockton.

State Department of Public Health

B. Dean, D.V.M., San Francisco.

J. F. Winn, A.B., B.S., D.V.M., S.A. Vet. U.S.P.H.S. Communicable Disease Control, Atlanta, Georgia.

County Livestock Inspectors

W. C. Bateman, D.V.M., San Bernardino County, San Bernardino, California.

J. H. Bower, D.V.M., Orange County, Santa Ana, California.

E. R. Quortrup, D.V.M., San Diego County, San Diego, California.

Participating Practicing Veterinarians

E. C. Baxter, D.V.M., Los Angeles.

T. A. Berry, D.V.M., Berkeley.

H. W. Campbell, D.V.M., Santa Rosa.

H. F. Carroll, D.V.M., San Francisco.

J. E. Craige, V.M.D., Seaside.
S. A. Fuller, B.S. Agric., D.V.M., Arcata.

G. C. Green, D.V.M., Los Angeles.

A. R. Inman, D.V.M., Visalia.

R. V. Jessup, D.V.M., Glendale.

G. H. Kenaston, D.V.M., San Bernardino.

E. G. LeDonne, D.V.M., Oakland.

G. E. McClintock, D.V.M., West Hollywood.

S. T. Michael, M.S., D.V.M., San Francisco.

R. Ormsbee, D.V.M., Stockton.

C. H. Ozanian, D.V.M., Bellflower.

E. W. Paul, D.V.M., Redwood City.

C. H. Reid, D.V.M., Hollywood.

W. K. Riddell, D.V.M., Los Angeles.

W. M. Thorning, D.V.M., Redwood City.

K. R. Wilcox, D.V.M., Los Angeles.

Program Committee

C. E. Wicktor, Chairman

H. F. Carroll

M. C. Coons

T. J. Hage

R. V. Jessup

Local Arrangements, D. C. Lindley

Program

JANUARY 9, 1950—MONDAY
GENERAL SESSION

Morning

ANDERSON HALL

Executive Committee Meeting.
Registration for Conference.

Afternoon

AUDITORIUM

E. G. LeDonne, Chairman

1:30—Opening of the Conference.
Address of Welcome—Julian McPhee, President, California State Polytechnic College.

Response—F. P. Wilcox, President, California State Veterinary Medical Association.

2:00—Greetings from the American Veterinary Medical Association.

What the American Veterinary Medical Association Means to Veterinarians, W. M. Coffee.

2:30—Veterinary Ethics, S. T. Michael.

ASSOCIATION MID-WINTER CONFERENCE

LA JOLLA, CALIF.—JANUARY 9, 10, 11, 1950

- 3:00—Virus Diseases of Animals Transmissible to Man (Moderator, P. D. DeLay), B. Dean; J. Enright.
4:00—Motion Picture—San Diego County Live Stock Department Activities.
Rabies Control Programs: San Diego County, E. R. Quortrup; Orange County, J. H. Bower; San Bernardino County, W. C. Bateman.

Evening

AUDITORIUM

- 7:30—Adjourned Business Meeting of the California State Veterinary Medical Association.

JANUARY 10, 1950—TUESDAY

SMALL ANIMAL SECTION

Morning

ROOM 6—CLASSROOM BLDG.

H. S. CARROLL, *Chairman*

- 8:30—Motion Picture, "Outbreak," Foot - and - Mouth Disease. (Courtesy United States Department of Agriculture.)
9:00—Diethylcarbamazine in the Treatment of Heartworms in Dogs, T. J. Hage.
10:00—The Use of Intramedullary Pins in Small Animals, W. O. Brinker.
11:00—Hospital Methods, G. C. Green; K. R. Wilcox.

Afternoon

G. H. KENASTON, *Chairman*

- 1:30—Clinical Notes, W. O. Brinker.
2:30—Motion Picture and Comments—Laboratory Diagnosis of Intestinal Infections, J. E. Craigie.
3:00—Diagnosis and Treatment of Diseases of the Urinary Tract (Moderator, W. K. Riddell).
Clinical Manifestations of Diseases Due to a Pathological Urinary Tract, T. A. Berry.
Simple Laboratory Methods Available to Practitioners for Use in Hospital, G. E. McClintock.
Interpretation of Laboratory Reports, E. C. Baxter.
Treatments Available to Correct Pathological Findings, E. W. Paul.

JANUARY 10, 1950—TUESDAY

LARGE ANIMAL SECTION

Morning

AUDITORIUM

R. V. JESSUP, *Chairman*

- 8:30—Motion Picture, "Outbreak," Foot-and-Mouth Disease. (Courtesy United States Department of Agriculture.)
9:00—Trichomoniasis in Cattle and Its Control, M. A. Emmerson.
10:00—General Practice — Illustrated, W. M. Coffee.
11:00—Cattle Scabies Eradication (Motion Picture), A. C. Rosenberger.
11:30—Source of Q Fever Antibodies in Calves, J. F. Winn.

Afternoon

A. R. INMAN, *Chairman*

- 1:30—Atypical Acetonemia in Cattle, C. H. Ozanian.
2:30—Eradication of Cattle Fever Ticks, E. F. Chastain.
3:00—Bovine Sterility (Moderator, K. G. McKay); Raymond B. Cowles, S. A. Fuller, W. M. Thorning, R. Ormsbee.

Evening

BANQUET HALL

(Presbyterian Education Bldg.)

- 7:00—Banquet.
H. W. CAMPBELL, *Toastmaster*
Address—George H. Hart.
The International Veterinary Congress in London.
United Nations Scientific Conference on the Conservation and Utilization of Resources at Lake Success, New York.

JAN. 11, 1950—WEDNESDAY

GENERAL SESSION

Morning

AUDITORIUM

C. H. REID, *Chairman*

- 9:00—X-Ray Therapy of Some Diseases of Animals, M. A. Emmerson.
10:00—Diagnosis of Anaplasmosis Through Complement-Fixation—W. M. Mohler.
11:10—Recent Advances in Veterinary Pharmacology, S. A. Peoples.



DR. M. A. EMMERSON

Graduated from Iowa State in 1925 and received his Master of Science degree in 1928. In 1930 Dr. Emmerson was awarded the Doktor der Medizin veterinarius degree from the University of Zurich in Switzerland. Dr. Emmerson was on the teaching staff of Iowa State College from 1925 to 1929; he was on the teaching staff of the University of Pennsylvania from 1930 to 1944, and from 1944 to now Dr. Emmerson has held the title of Professor and Head of the Department of Obstetrics, Division of Veterinary Medicine, at Iowa State College. Dr. Emmerson was the first veterinarian to discover and report on Trichomoniasis in cattle in the U.S.A.; this was in November of 1932. He has had special training in radiology at Memorial Hospital, New York City, Philadelphia General Hospital, University of Pennsylvania Hospital, the Moore School of Electrical Engineering, Philadelphia, and the Vienna Veterinary High School in 1939. He has had 19 years of practical experience with animal radiology at the University of Pennsylvania Veterinary Hospital and the Stange Memorial Clinic at Iowa State College.

DR. KENNETH MCKAY

Dr. Kenneth McKay, University of California at Berkeley, graduate of Washington State College in 1921, practiced four years as a general practitioner in Colville, Washington, before coming to Los Angeles where he was associated with the Los Angeles County Live Stock Department.

In 1929 Dr. McKay was appointed an extension specialist in Veterinary Science at the University of California in Berkeley.



Status of Bovine Tuberculosis in California

By DR. A. K. CARR, *Chief, Division of Animal Industry,
California Department of Agriculture*

A review of the 32-year-old fight to eradicate bovine tuberculosis in the United States shows that the program reached its first goal of modified accredited status in November, 1940. The objective was to reduce the disease to less than one-half of one per cent infection in every county in the United States. This Federal-State cooperative project has cost \$269,650,000, two-thirds of which was paid to farmers as indemnity for the loss of cattle. Nearly 300,000,000 cattle have been tuberculin tested, and about 4,000,000 reactors have been slaughtered. Reducing infection to this low percentage average is a splendid accomplishment, but the work is not complete, for few diseases are more insidious in their dissemination than tuberculosis, be the victim man or cattle. The disease remains a threat to the livestock industry, and it will require constant vigilance, endless testing, and strict sanitation to hold the remarkable gains already made.

Since 1943, nationally, the percentage of bovine tuberculosis has slightly increased, and the problem today is to discover the "spreader" cows in herds apparently free from tuberculosis. Unfortunately, we know that routine tuberculin testing occasionally fails to detect or reveal a tuberculous animal. On the other hand, the test may cause a reaction in a non-tuberculous animal. The gravest danger factor of the test is, of course, the fact that tuberculin may not detect the "spreader" cow. Such an animal remaining in a herd is a most potent spreader of tuberculosis, and too often is the cause of "blow-ups" in apparently clean herds.

Recently there has been some apprehension that the past gains in controlling bovine tuberculosis in California are seriously jeopardized. It is timely, therefore, to review briefly the California campaign and analyze the present situation.

California got off to a late start in the national Federal-State bovine tuberculosis eradication program. The program started on September 14, 1931, in Santa Cruz County. On November 1, 1940, nine years later, the entire State was designated a tuberculosis modified area by the United States Department of Agriculture, tuberculosis among California cattle having been reduced to less than one-half of one per cent. During the progress of the campaign as many as 35 per cent of the cattle in some counties and over 20 per cent in several others were found infected. Reducing the incidence of tuberculosis on a State-wide basis to less than one-half of one per cent in this comparatively short time is a really remarkable achievement and far beyond the fondest hopes of many.

When we consider the diagnostic methods presently available, those engaged in the tuberculosis eradication campaign on a national front generally agree that the reduction of tuberculosis in cattle below one-half of one per cent is a difficult task. Further research probably will develop better methods, but in the meantime it is necessary to maintain a continuous program of retesting to detect any source or spread of remaining infection. Should this routine testing fall behind schedule and herds be permitted to go without tuberculin testing for too long a period, undoubtedly the disease would become a real threat to the health of our people and our herds.

During the war a large number of veterinarians engaged in tuberculosis work entered the army, and many did not return to State service. There was a corresponding reduction in the cooperating Federal staff, together with assignments of veterinarians to Mexico to combat foot-and-mouth disease in that country. This shortage has not permitted the amount of testing to be maintained at a schedule which is considered desirable, especially in some of the intense dairy areas.

In addition to the shortage of veterinarians, other factors have entered into the problem of tuberculosis control in this State. Of these it seems desirable to mention a situation which exists particularly in districts where large herds are maintained on comparatively small ranches. As an example, in one southern county there are 132,429 dairy cattle and during the year 55,783 cattle were brought in as herd replacements. The control of the movement of tuberculosis exposed cattle in congested areas is a most critical factor in disease eradication.

During recent years there has been an increase in the movement of cattle through sales yards and many dispersal sales of cattle on ranches have occurred. The dispersal of a herd in which reactors have been found and the movement of the remaining exposed animals into several other herds is a most dangerous practice, and no doubt has contributed to the spread of tuberculosis among herds in some areas of the State. To assist in minimizing this situation the recent Legislature passed an urgency bill that places restrictions upon the movement of exposed cattle.

A schedule for testing all commercial dairy herds every two years, and infected herds repeatedly at short intervals, has been set as a safe minimum of testing under present conditions. This schedule is dependent upon our ability to fill vacancies in State service, and indications at present are favorable.

While there has been some increase in the number of reactors as a result of tests conducted in the past several months, it is gratifying to know that remodification of all counties in the State has been maintained and that the total percentage of tuberculosis continues to be less than one-half of one per cent. During the calendar year 1948, of 637,650 cattle tuberculin tested in California, 2,353 reacted. Thus,

among all cattle tested during 1948 only three-tenths of one per cent reacted.

There is every reason to believe that with the resumption of tuberculin testing on a pre-war basis, in accordance with the schedule mentioned, the number of infected herds in California will be systematically and progressively reduced to a safe and practical minimum.

Veterinarians Needed in Mexico

The U. S. Bureau of Animal Industry is in need of a number of additional veterinarians to properly conduct the foot-and-mouth disease program in the Republic of Mexico.

Initial appointments of veterinarians for duty in Mexico are made in grade P-2 with basic salary at the rate of \$3,727.20 per annum. Appointments are for a period of not beyond one year, subject to extension on a year to year basis if services of the appointees are still needed and if their work and conduct are satisfactory. Our field veterinarians in Mexico have a 6-day, 48-hour work week and receive overtime pay for eight hours each week. Opportunities for promotion to higher grades are very favorable for veterinarians assigned to Mexico who demonstrate on the job their adaptability, initiative, efficiency, and other qualifications needed for the more responsible positions. The Bureau continues to pay travel expenses of appointees and members of their immediate families, if any, from places of residence to Mexico City and similar expenses upon return to this country provided they agree in writing to remain in Mexico for at least one year unless separated for reasons beyond their control. Additional information regarding the Mexican assignments, including the allowances for quarters, is contained in Circular Letter 408.1 dated September 19, 1949. Because of the rather rigorous working and living conditions encountered in Mexico, we have found it advisable not to employ veterinarians for duty in that country who are over 50 years of age.

Each applicant recruited by field stations for employment in a veterinary capacity in Mexico should fill out in duplicate Standard Form 57, Application for Federal Employment. Both copies of this form should be mailed to the Bureau immediately upon completion. Following receipt of this, the applicant will be contacted promptly and furnished further instructions relative to processing for appointment. Supplies of Standard Form 57 are already on hand at field stations. If additional copies are needed they may be requested from the Personnel Division of the Bureau in Washington.

Veterinary Clinic Gives Davis Students Training

Cases numbering 1,140, including swine vaccinations, blood testing of cattle herds, surgery, treatment of diseased animals, and hospitalization, were handled during the initial year of operation by the Veterinary Clinic of the School of Veterinary Medicine on the Davis campus of the University of California. In making this statement Hugh S. Cameron, professor of veterinary science, said that although animals from distant counties have been brought in for major surgical treatment, the clinic's purpose is to function primarily in the Davis area.

Fees charged are in line with veterinary rates in the district from which the animal comes, Cameron said. Referral to the clinic is often made by practicing veterinarians. No charge is made for autopsies for diagnostic purposes.

The clinic will serve as a necessary aid to instruction in the new School of Veterinary Medicine at Davis, Cameron said, adding that with the chief objective of the school being the training of practicing veterinarians, this clinical instruction is essential.

Laboratory Training Courses

An extremely comprehensive schedule of Laboratory Training Courses is being offered by the Communicable Disease Center in Atlanta, Georgia, from January 1-December 31, 1950. If you are interested in receiving the schedule of these courses which are all one, two, three, or two to four weeks' duration kindly write to Chief, Laboratory Division, Communicable Disease Center, 291 Peachtree Street, N.E., Atlanta, Georgia.

Birth Announcements

Dr. and Mrs. Dean Lindley announce the birth of a boy, Merle Dennis, 9 lb., 2 oz.

* * *

Dr. and Mrs. John Carricaburu announce the birth of a boy, John Bryan, 7 lb.

* * *

Dr. and Mrs. A. C. Emminger announce the birth of a son, James Albert, Dec. 5.

Recent Developments in Rumen Physiology

By E. C. STONE, B.S., M.S., D.V.M.*

It is often difficult to evaluate the relative importance of various organs. No one will question the importance of the heart, lungs, liver, adrenal cortex, or the parathyroid glands, but organs such as the stomach or spleen are not considered essential because other organs can supplement their function to maintain life. Although an animal can sustain life without certain organs it is functioning without the reserves Mother Nature intended, and in many instances the general condition of the animal is sub-normal. In the field of veterinary medicine where economic aspects must be considered an animal cannot pay its way unless it has reasonable use of all functional systems.

The importance of the stomach has often been noted. It has been said that "an army travels on its stomach," and we are all familiar with the quotation, "the way to a man's heart is through his stomach."

The bovine stomach is more important to the cow than the simple stomach of other animals because it has many functions beyond that of a simple stomach. The bovine stomach performs not only the function of digestion characteristic of the stomach in other animals, but in addition the rumen is a biological laboratory synthesizing and absorbing many important compounds. The bovine rumen should not be considered as a large storage vat without other functions. This fact has often been overlooked by the veterinary profession. As early as 1822 investigators had analyzed rumen gases. Lungwitz (Germany 1892) investigated certain aspects of rumen function. The main facts brought to light by Lungwitz are as follows:

1. The gases produced in the rumen are carbon dioxide and methane and small amounts of hydrogen sulfide.
2. Nitrogen and a small amount of oxygen are present in rumen gas because of the entrance of air into the rumen.
3. Artificial fermentation of various cattle feeds increases the acidity of the fermenting mass.
4. Different feeds produced the same gases.
5. The percentage composition of the rumen gas on different feeds shows only slight variations.
6. With any feed carbon dioxide is the largest portion of the rumen gas.

It is interesting to note that modern experiments have substantiated the findings of Lungwitz. It is difficult to understand why the modern concept of rumen function was so

long in developing when so many important facts were discovered so long ago.

There are many aspects of rumen function of importance to the practicing veterinarian. For the convenience of discussion the functions of the rumen will be subdivided, but it is well to keep in mind the fact that the various functions are simultaneously taking place.

Biological Activity Within the Rumen: It is a well-known fact that the cow hastily consumes a large amount of roughage. Without the rumen or some other organ to function in its place (e.g., the caecum and large intestine of the horse) the cellulose could not be used by the ruminant. The bacteria and protozoa of the rumen that have the ability to digest cellulose are important inhabitants of the cow's digestive tract. For this help the cow provides a home for these microorganisms and supplies them with food and protection. A few years ago it was believed that the organisms converted the cellulose to glucose and the glucose was used by the cow. Glucose has never been demonstrated in rumen contents and the theory of glucose production has been discarded. It is now known that the microbiological activity in the rumen results mainly in the production of acetic, propionic and butyric acids. It has been estimated that from 1/3 to 1/7 of the cow's nutrition results from the absorption and utilization of these volatile fatty acids.

In addition to the production of volatile fatty acids the bacteria and protozoa produce countless millions of organisms in the normal course of reproduction. These organisms contain the usual components of animal and plant protoplasm (carbohydrates, proteins and fats). In addition these organisms synthesize vitamins of the B complex which are of vital importance to the cow. The excess organisms are passed from the rumen to other parts of the digestive tract and are digested in the stomach and intestine in the conventional manner.

From the standpoint of biological activity in the rumen, we are actually feeding the bacteria and protozoa and they in turn are feeding the cow. We must be concerned primarily with the requirements of the rumen organisms. In reality we have in the cow a huge incubator maintained at a relatively constant temperature and pH. We must aid the cow in obtaining the proper nutrients for her organisms in order that they can multiply and produce the materials the cow needs.

Maintenance of Rumen pH: The volatile fatty acids are absorbed mainly in the rumen, reticulum and omasum. They are absorbed partly as the free acid and partly as salts of these acids. The absorption of the acids

*Chairman, Department of Veterinary Physiology and Pharmacology, College of Veterinary Medicine, The State College of Washington, Pullman, Washington.

is an important factor in keeping the rumen ingesta at the proper pH for the rumen organisms. The saliva is also an important factor in rumen pH control. An adult cow normally produces about 56 liters of saliva in a 24-hour period. The saliva has a pH of 8-8.5. This large amount of alkaline saliva neutralizes much of the fatty acid produced.

From the standpoint of practical veterinary medicine we must be concerned with any disturbance in the rumen that alters the environment of the rumen organisms. Besides supplying water, proper food, maintaining the proper pH and keeping the temperature constant, there are other factors that are extremely important to the veterinarians. Some of these factors are: maintenance of proper rumen motility, proper eructation and absorption of gases, and proper rumination.

Rumen Motility: The rumen is constantly contracting in the normal animal to mix the contents so that the organisms can act upon all particles of ingested food. These movements occur at the rate of 2-3 per minute. The cow ruminates about 8 hours out of each 24. There are about 14 periods of rumination in a 24-hour period and the interval between these periods are quite evenly distributed.

Foreign Quarantine Regulations

Sec. 11.154 Cats, dogs, and monkeys. Subject to the provisions of paragraphs (d) and (e) of this section, no cat, dog, or monkey shall be brought into ports under the control of the United States from any foreign country unless the requirements of paragraphs (a) and (b) of this section are complied with.

(a) The owner may submit a sworn statement that the animals have been immunized with an approved rabies vaccine not more than six months prior to the date of entry. If such a statement is not submitted, the animals must be immunized with an approved rabies vaccine following arrival into ports under control of the United States and prior to release from quarantine.

(b) The owner may submit a sworn statement that the animals were physically inspected within ten days prior to departure for the United States and were found apparently free of demonstrable diseases involving emaciation, lesions of the skin, nervous system disturbances, jaundice, or diarrhea. If such a statement is not submitted, the animals must be physically inspected following arrival into ports under control of the United States and found apparently free of demonstrable diseases involving emaciation, lesion of the skin, nervous system disturbances, jaundice, or diarrhea.

(c) Notwithstanding any other provision of this section, monkeys put on board at a port in an endemic yellow fever area, or monkeys coming from such an area, shall not be brought in unless they are free of evidence of yellow

fever infection, and their owner submits evidence satisfactory to the quarantine officer that, immediately prior either to being put aboard or on their arrival, the monkeys had been detained in a mosquito-proof structure for not less than nine days.

(d) The immunization requirements of paragraph (a) of this section shall not be applicable to cats, dogs, or monkeys if the owner thereof submits a sworn statement to the effect that (1) the animals are destined for a research institution, (2) they are intended by such institution to be used for scientific purposes, and (3) immunization will seriously interfere with their use for such purposes.

(e) The provisions of paragraphs (a) and (b) of this section shall not be applicable in the case of cats, dogs, or monkeys brought in from Bermuda, Canada, Eire, Sweden, or the United Kingdom of Great Britain and Northern Ireland. The provisions of paragraph (a) of this section shall not be applicable in the case of cats, dogs, or monkeys brought in from Australia or New Zealand.

Sec. 11.155 Cats, dogs, and monkeys: Disposition of excluded animals. Cats, dogs, and monkeys excluded from entry under these regulations shall be destroyed or deported. Pending deportation they shall be detained under Customs' custody at the owner's expense:

(a) Aboard the vessel on which they arrive, the vessel to be held under provisional pratique; or

(b) At the airport of entry.

Mexico Free of Foot-and-Mouth Disease

No animal infected with foot-and-mouth disease has been found in the Republic of Mexico since July 27th, indicating the effectiveness of the vaccine program of the Mexican-American Commission for the Control of Foot-and-Mouth Disease in the Southern Republic.

That report was made today to the State Board of Agriculture by Dr. C. U. Duckworth, Assistant State Director of Agriculture, and member of the American Advisory Committee on Foot-and-Mouth Control.

Under the program adopted by the Commission at the outset of the infection in Mexico, involving the slaughter of all infected animals, almost a million animals were killed and buried, Dr. Duckworth said. Later a program was adopted involving vaccination of all animals in the area instead of the slaughter process as better fitting the conditions encountered.

Dr. Duckworth said the third round of vaccination of cattle is in progress and that the area of infection is being steadily narrowed.

Intratracheal Narcosis in Small Animals*

By DR. E. J. VOUTE and DR. H. A. HANNEMA†

Methods of inducing narcosis for small-animal surgery have changed repeatedly and the early practice of administering morphine as a pre-narcotic followed by the inhalation of ether, chloroform or a mixture of these two gases by means of a mask has virtually disappeared. This type of narcosis has many disadvantages since it may cause vomiting, micturition, defaecation, salivation, cardiospasm, and too long a period of pre-narcosis. Since the shape of the heads of dogs varies, adjustment of the mask is difficult so that the ether escapes, which makes it difficult to assess the amount inhaled by the animal and causes discomfort to the operator. More recently the induction of narcosis by means of the intravenous or intraperitoneal routes has superseded the older methods. Pentothal and Kemithal have proved especially useful for operations of short duration, but for longer interferences they frequently require supplementary doses of the anaesthetic.

The method of inducing narcosis by intratracheal infusion following intratracheal intubation is already practised in human surgery and in small-animal surgery; it has the following advantages over the older methods of inhalation narcosis:

1. It allows of the introduction of a known amount of anaesthetic.
2. It permits an unobstructed operation field.
3. It provides placid and adequate respiration.
4. It ensures that artificial respiration may be applied effectively, if required.
5. It prevents the aspiration of foreign material.
6. The animals recover more rapidly.
7. The duration of the operation is immaterial.
8. Thoracotomy for such operations as diaphragmatic hernia, foreign body in the oesophagus, is possible.
9. There is no salivation.

Historical Development

This method is not new, for Trendelenberg in 1871 gave a method of narcotising human beings by means of the intratracheal route, while Meltzer and Auer did something akin to this in a dog by introducing ether through a catheter in the trachea.

With the outbreak of World War I, however, all efforts were discontinued until 1927 when Heidenberg and Marion worked out a method of inhalation by means of a narrow bored tube fitted into the trachea, the expired air passing

out *via* the space not occupied by the tube. This author, in 1948, described 1,600 cases narcotised by this method. Magill introduced a closed system with a metal endotracheal tube which fitted the trachea exactly. In 1947 Dinsmore described a similar system but used a rubber tube for the trachea which he stated gives better results than the metal tube.

Physiology

In order to understand the problem and possibilities of inhalation anaesthesia it is necessary to be conversant with the physiology of respiration which is summarised below.

When the thorax is at rest the intrapulmonic pressure (D.I.) is the same as the atmospheric pressure and the intrathoracic pressure (D.A.) is the intrapulmonic pressure less the force of the elastic recoil of the lungs (L.2) $D.I. = D.A. + L.2$. The intrathoracic pressure is always less than the intrapulmonic pressure in normal respiration, the difference being spoken of as the negative pressure. With inspiration the lungs increase in volume, following the increase in volume of the thoracic cavity, and since the lungs are further stretched the so-called negative pressure increases. With normal expiration, owing to the decrease in volume of the chest with a consequent decrease in volume of the intrapulmonic space there is less recoil of the elastic tissue of the lungs and the negative pressure decreases. In the pleural cavity of the dog the pressure fluctuations vary from -3.9 mm. Hg in expiration to -10 mm. Hg with inspiration. If expiration is impeded the intrapulmonic pressure may rise above atmospheric pressure so that the negative pressure of the intrapleural cavity may become positive. On opening the pleural cavity the lung collapses as the intrapulmonic pressure and the intrathoracic pressures are now the same (i.e., atmospheric pressure).

The passage of air through the nose and other respiratory passages permits warming and saturation with water vapour. The secretion of the nasal mucosa prevents the access of dust into the lungs; this secretion is also bactericidal.

The respiratory passages from the nose to the alveoli are referred to as the dead space since the air they contain does not come into contact with the alveolar epithelium. Haldane and Priestley concluded that in expiration the composition of the air in the dead space was the same as the alveolar air but Roos and Comyn proved that this was not always the case in dogs.

The physiology of the dead space is very important in intratracheal narcosis since the connected apparatus enlarges it. It is necessary, therefore, to reduce this enlargement of the dead space to a minimum by having the

*Presented, illustrated with film, to the Annual General Meeting and Congress of the National Veterinary Medical Association, in London, August 15th, 1949.

†Director and Veterinary Surgeon of the Small-Animal Clinic, Amsterdam, Holland.

gas reservoir as close as possible to the mouth of the animal. It takes some time before the narcotic reaches the concentration in the alveolar air necessary for anaesthesia. This time can be shortened by increasing the pressure of the reservoir in order to raise the concentration of the anaesthetic in the alveolar air.

Roos and Comyn showed that in a 20 kg. dog the tidal air is 200 ml., the complementary air 600 ml. and the supplemental air 300 ml., and that in a prone position the tidal air is 190 ml. and that the volume of expired air is 150 ml. It is possible, therefore, to calculate the size of balloon required for different sizes of dogs and the cat. In practice a balloon of 2l. capacity has proved to be the best for the majority of dogs.

Apparatus

In human medicine an expensive intratracheal apparatus has been developed but since this would probably be too costly for the average veterinary surgeon we have constructed a more simple apparatus which is quite effective. Our apparatus is not perfect or fully developed and naturally does not provide all the possibilities offered by the expensive apparatus adapted for anaesthesia in the human subject. The apparatus consists of the following features:—

1. By means of a system of tubes and stop-cocks, the narcotic, air or oxygen can be added to the balloon as required.
2. The balloon is connected as closely as possible to the endotracheal tube which varies in size with the size of the dog or cat.
3. Ether, chloroform or any other volatile narcotic is pumped into the balloon where it can be mixed with air if required. The narcotic mixture is warmed by leading it through a thermos flask containing warm water.
4. In the type of apparatus used in human surgery a soda-lime bottle for the absorption of carbon dioxide is interposed between the balloon and the endotracheal tube but to date we have not used this.

We consider that a slight excess of CO₂ in the reservoir is an advantage rather than a disadvantage for the consequent rise in the arterial pressure of the carbon dioxide stimulates the inspiratory division of the respiratory centre of the medulla oblongata and so tends to avoid apnoea.

Narcosis

A pre-narcotic is required before the endotracheal tube is introduced. Intravenous narcotics may be classified into long-acting, moderate, and short-acting narcotics (Swart, T. v. G. 93-1-8, 1949). Pentothal and Kemithal are short-acting narcotics which produce their effects quickly, the drug reaching the cerebrum in 10 secs. and affecting the hypothalamus and corpus striatum. The narcotic dose can be assessed accurately. In the cat the intraperitoneal route is a more practicable method of administration.

We have found that Kemithal is preferable to Pentothal since it is less depressant to the respiratory centre. In human anaesthesia curare is used as a premedicament in order to reduce the amount of Pentothal needed to produce a good depth of narcosis.

If the injection of Kemithal is given too quickly inhibition of respiration may occur. With intratracheal narcosis it is possible to intervene immediately, using the balloon as an artificial respiration pump. It is not necessary to administer oxygen unless this is indicated by cyanosis of the patient's mucous membranes. An accumulation of carbon dioxide will stimulate the respiratory centre, therefore artificial respiration need not be resorted to in apnoea unless the condition of the patient demands it. Manual rhythmic pressure of the balloon will produce mechanical expansion of the balloon and an initiation of the Hering-Breuer reflex. Klein (T. v. G. 93-1-7, 1949) draws attention to inhibition of respiration as a hazard in surgery and describes the so-called controlled respiration.

When the endotracheal tube is introduced during pre-narcosis the mouth must be filled with wet bandages or some other packing material in order to prevent the leakage of air along the tube. With the intratracheal tube in position the apparatus is connected and the narcotic can be administered.

We find ether the best for the cat, chloroform and ether (with or without alcohol) for dogs but other volatile narcotics such as nitrous oxide or nitrous oxide and air can be used. We have used Trilene but this has the disadvantage of not producing deep narcosis so that, for example, dogs may continue to bite on the endotracheal tube. High concentrations of Trilene cause spasm of the jaw and cyanosis requiring the administration of oxygen. For operations of short duration it is a good anaesthetic.

On completion of the operation the endotracheal tube is released from the apparatus and the animal can breathe fresh air. The tube is left in position for some time in order to prevent obstruction to respiration by the tongue or saliva. In order to shorten the time of recovery oxygen may be given.

Some Experiences Noted in Working With Intratracheal Anaesthetics

1. Some animals expire more air into the balloon than they inspire from it.

This cannot be explained by suggesting that some air gains access along the sides of the endotracheal tube during inspiration and that in expiration the whole volume is accounted for because the vocal cords contract on to the tube. It is possible that the discrepancy is due to a drawing on the reserve air of the lungs due to the effect of the narcotic on the respiratory centre. We have failed to explain this phenomena which does not occur in all dogs.

(Continued on page 28)



ALL WORK AND NO PLAY IS NOT FOR THE FISHERMEN PICTURED AT LEFT: Reading from left to right these happy fishermen are: W. M. (Bill) VanDeren, Berkeley businessman; Dr. W. W. Brimer, Alameda; Dr. T. A. (Pete) Berry, Berkeley; and Otto H. Hieb, Oakland businessman. The party recently returned from a trip by auto to Boise, Idaho, and from there by chartered plane into the primitive area of Idaho on the Middle Fork of the Salmon River.

A Message from the Secretary

DEAR DOCTOR:

Our Group Disability Insurance Program has now been in operation for 18 months and many of our members have derived substantial benefits because of the initiative and foresight shown by the members who enrolled during the installation of the plan. Several members are drawing maximum benefits and it is an actuarial certainty that others will draw benefits to a greater or lesser degree.

I am told that the National Casualty Company, with few exceptions, has nearly all of the prominent professional associations and societies in California insured under the Group Disability Insurance plans similar to ours and that in some instances as many as 90 per cent of the eligible members of the various societies are enrolled in the plan. I am also told that all of these associations and societies have at one time or another expressed complete satisfaction with the plan.

It is only sound judgment to adequately insure your income with tax exempt "Income replacement" disability insurance. The earned income of a professional man depends upon his continuing ability to practice his profession. That income stops the day illness or accident strikes him down. You may own the California State Veterinary Medical Association policy in addition to disability insurance you may now hold. To acquire the same benefits on an individual basis you would have to pay at least 50 per cent more premium.

We would like to bring the participation of our members in the plan to the maximum degree as we believe this to be an important function of our Association. All members, both old and new, who have not added their names to this program are urged to write the Association office. You will receive full information promptly.

Very truly yours,

CHARLES S. TRAVERS,
Executive Secretary.

Women's Auxiliary Notes

President.....MRS. G. N. MILLER
228 E. San Bernardino Road, Covina, California

Vice-President.....MRS. E. V. EDMONDS
4665 Benevides Avenue, Oakland 2, California

Secretary-Treasurer.....MRS. H. I. OTT
11566 E. Firestone Blvd., Norwalk, California

Executive Board: MRS. R. J. FOSTER, Member-at-Large;
MRS. CHARLES H. REID, Past President.

The Ladies' Auxiliary to the Southern California Veterinary Medical Association met September 21 at the French Cafe, Montebello, California. After the business meeting, Mrs. L. E. Pike, a member of the Auxiliary, entertained the ladies with her moving pictures of Great Britain, which she and Doctor Pike made while touring the British Islands last summer.

Dr. Pike was a member of the United States Bowling Green team that toured Great Britain and played matches with teams in England and Scotland.

* * *

Mrs. H. I. Ott, Secretary-Treasurer of the Women's Auxiliary, sends us the following information:

Mrs. C. H. Reid of North Hollywood was elected Treasurer of the Ladies' Auxiliary to the AVMA at the 86th Annual Meeting of the AVMA Auxiliary held July 11, 12 and 13 in Detroit, Michigan.

Mrs. Reid has been very active in the California State Auxiliary, having held all offices in the state as well as all offices in her local Auxiliary, the Southern California Veterinary Medical Association.

* * *

The Ladies' Auxiliary to the California State Veterinary Medical Association will not hold a meeting at the Mid-Winter Conference in San Luis Obispo on January 9, 10, 11, 1950.

The Secretary's Scrap Book

The purpose of this column is to give you in brief form the highlights of what your association secretary is doing and to let you learn what is new in the state where the veterinary profession is concerned.

THE CALIFORNIA VETERINARIAN is your organization's official publication. It was inspired and is supported by a large group of the veterinary profession. You, as a member of the association, are responsible for your journal; and the foresight you showed in asking for a magazine has been, we believe, justified. The magazine invites your comment and constructive criticism. The worth of a publication is only as great as what is to be found between its two covers. We wish you would submit any material you may have of interest to others in your profession—be it news, or technical information. You want your journal to be a medium of exchange of knowledge; that is the purpose of the journal. Get behind the magazine and the association, and when you are in San Francisco visit your secretary.

Thumb Nail Sketch of Activities

July—Attended Bay Counties VMA meeting. . . . met with Dr. H. S. Cameron at Davis. . . . Met with Dr. A. G. Boyd, Sacramento. . . . Met with Frank Wright on Calo Dog Food ad. . . . Entertained Dr. Charles White from Arizona. . . . Meeting with Mr. John Toole on health and accident policy. . . . Meeting with Dr. Gaylord Cooke in Berkeley. . . . Meeting with Dr. Joseph Arburua, history. . . . Meeting with Dr. Haring, magazine.

August—Meeting with Dr. Pearl Hand on outside run complaint. . . . Meeting with Attorney Carl Anderson, Albert Mann, Consulting Engineer, Burlingame, court proceedings, Redwood City. . . . Went to El Cerrito on property sale. . . . Conferred with Dr. McKay, radio program. . . . Meeting with Dr. Henry Burns, Allan Newman, advertising. . . . Meeting with Mr. Hill, Fort Dodge Laboratories. . . . Attended Bay Counties VMA meeting, San Jose Country Club. . . . Dr. Hand, Mr. Mann on case called on Mr. Wilms, complainant. . . . Met Mr. John Toole on accident application. . . . Met with Dr. Gaylord Cooke, Dr. Joseph Arburua, Dr. Charles Parshall, ethics. . . . Trip to Salinas on sale of property (Outhier's to Wayland and Helfer).

September—Meeting with Dr. Hand and Dr. Groth. . . . Bay Counties meeting, Leamington Hotel, Oakland. . . . Meeting with Dr. McKay, Mr. Schacht of NBC on AMVA Broadcasting program. . . . Peninsula Assn. meeting. . . . Monterey Bay Area meeting. . . . Meeting with

Mr. John Toole on member's claim. . . . Trip to Davis with Dr. McKay, met with Dr. Cameron. . . . Went to El Centro, property sale. . . . Meeting with Dr. Geiger and Mr. Brevit, Health Department, on complaint against member. . . . Meeting with Dr. McKay, radio.

October—Meeting with Dr. Hand. . . . Called on Dr. White and Dr. Morris on matter that could concern the Assn. . . . Meeting with Dr. Gaylord Cooke and Dr. Sheffield. . . . Bay Counties VMA meeting, nomination of officers. . . . Conferred with Dr. Michael on Assn. . . . Meeting with East Bay VMA with President Wilcox talking. . . . Went to Davis with President Wilcox and conferred with Dr. Cameron. . . . Attended Sacramento Assn. meeting with President Wilcox. . . . Attended Redwood Empire Assn. meeting, Sonoma. . . . Meeting with Dr. Haring, Dr. Arburua on magazine. . . . Went with Dr. Hansen on possible purchase of hospital. . . . Trip to Alameda on ethics. . . . Trip to San Mateo on magazine advertising. . . . Meeting with Dr. Arburua on history. . . . Meeting at secretary's residence in honor of President Wilcox' visit to San Francisco, present were Doctors Michael, Groth, LeDonne, McKay, Arburua, Kron, Stafford, Parshall, and Cooke. . . . Several meetings with our treasurer, Oscar J. Kron.

Outlined above is the secretary's outside of the office work; daily work consists of correspondence, telephone calls, magazine editing. During the past few weeks all members received a brief outline of the future Mid-Winter Conference program, the members were sent letters and applications on the health insurance, all the newly California licensed veterinarians were sent magazines in envelopes with an invitation to join their state association, an application form, the insurance data, and the Mid-Winter Conference announcement. The Membership Committee were sent material on a Membership Drive. The Executive Committee were sent letters on a resolution to be made. The Resolution Chairman was sent memorandum on our deceased members. The Ethics Committee Chairman was sent data on ethics. The Ways and Means Committee Chairman was sent material for his committee. Dr. Wicktor has been conferred with re the Mid-Winter Conference Program. All advertisers were advised on new contracts, 65 new advertisers were approached for possible space in our magazine. Public relations material sent to all magazines on our exchange list and to the press. Many letters requesting material for the magazine are always in the mail. And that's 30 for the past few weeks. May we hear from you, too.

Intratracheal Narcosis in Small Animals

(Continued from page 25)

2. With very large breeds of dogs which have a relatively large dead space it requires some time to produce a sufficient concentration of the anaesthetic in the alveolar air to induce narcosis. By applying manual rhythmic pressure to the balloon, however, we can induce narcosis relatively quickly.

3. If an operation is lengthy then the pre-narcotic is excreted before the completion of the operation and the animal can be awakened immediately by the administration of oxygen.

4. If respiration is rapid the balloon may have to be refilled. This occurs especially in large dogs when only a small balloon is available. We believe that this is not due only to the accumulation of carbon dioxide but also the accumulation of hydrogen.

5. Occasionally coughing may occur due to irritation of the trachea by the tube but this can be overcome by withdrawing the tube slightly. We use a neutral agent as a lubricant for the tube.

Thirty cases have been operated on, in the manner described, with good results and with no failures. Most of the cases were laparotomies but a few were thoracotomies. If the animals were in bad condition endotracheal narcosis proved to be an ideal method, for respiration can be controlled and recovery from the narcosis is rapid immediately the operation has been completed. For older dogs it is a safer method than intravenous narcosis, especially for operations of long duration.

Dr. John D. Chudacoff, Washington State College, 1949, is attending the School of Public Health of Harvard University, Boston, Mass., working for degree of Master of Public Health (M.P.H.).

Dr. Casselberry, Veterinary Director at Cutter Laboratories, Berkeley, got water logged on a recent fishing trip, when swept off his feet by swift waters in the Klamath River.

A CALL FOR HELP

We have had many requests from libraries across the nation for a complete set of **THE CALIFORNIA VETERINARIAN**. We regret that the office is depleted of Vol. 1, No. 2 (November-December, 1947) and Vol. 2, No. 1 (September-October, 1948). If any of our readers are in possession of these magazines and no longer wish to retain them will you be so kind as to mail them back to the office, 3004 16th Street, room 208, San Francisco 3. Thank you sincerely for your cooperation.

OPPORTUNITIES

Position Wanted

Veterinarian, 33 years of age, single, eligible for State Board Examination, at the present time employed as assistant in mixed practice, wants position as assistant. Graduate of the Royal Hungarian Veterinary College, Budapest, 1939. Address R.E.S., c/o THE CALIFORNIA VETERINARIAN.

* * *

For Sale

Small animal hospital in southern California coastal city. 33 cages, 10 runs, drugs, instruments and X-ray. Apartments on premises for both veterinarian and kennel man. Excellent chance to develop large animal practice. Send complete information in first letter and further details will be furnished. Contact your secretary's office.

* * *

Well established large animal practice in desirable part of California. Apartment, office and stables can be leased reasonably. Only sincere, competent large animal man with moderate capital need apply. Might consider leasing practice to right man. Contact your secretary's office.

* * *

Well established large animal practice in California together with acreage and income property. Excellent opportunity for some one with ambition. Reasonable terms to the right party. \$10,000 down payment. Write C.S.V. M.A., 3004 16th St., Rm. 208, San Francisco 3, Calif.

* * *

Modern Small Animal Hospital, new and up to date. Excellent location in Northern Section of Los Angeles. Equipped for two Veterinarians. Will sell all or half. Due to other interests. Reply to THE CALIFORNIA VETERINARIAN.

* * *

Assistant Wanted

Veterinarian to assist in small animal practice. Groth Animal Hospital, 2600 El Camino Real, San Mateo.

* * *

Ambitious young veterinarian to work in mixed practice. Good facilities and working conditions. Permanent. Salary open. Central California. Address replies to THE CALIFORNIA VETERINARIAN, 3004 16th St., Room 208, San Francisco 3, California.

* * *

Veterinarian wanted for small animal hospital. Begin as assistant at \$400 with possibility of taking over on percentage basis. Contact the secretary's office.

THE CALIFORNIA VETERINARIAN

LOCAL ASSOCIATIONS AND COMMITTEES

Bay Counties VMA

President, Dr. George E. Martin.
Vice-President, Dr. William W. Brimer.
Secretary-Treasurer, Dr. R. P. Cope.
Sergeant-at-Arms, Dr. B. F. Murray.
Executive Board, Drs. George Simmons, H. E. McClung.
Meetings, second Tuesday of the month.

Central California VMA

President, Dr. T. B. Eville.
Vice-President, Dr. C. T. Lambert.
Secretary-Treasurer, Dr. C. D. Cooper.
Rt. 2, Box 26, Visalia.
Meetings fourth Tuesday of the month.

East Bay VMA

President, Dr. R. J. Tompkins.
Vice-President, Dr. O. A. Soave.
Secretary-Treasurer, Dr. George Eberhart, 2100 San Pablo Ave., El Cerrito.
Meetings bi-monthly, fourth Wednesday.

Kern County VMA

President, Dr. Bruce Watson.
Vice-President, Dr. Price Edwards.
Secretary-Treasurer, Dr. Richard A. Stiern, 17 Niles St., Bakersfield.

Monterey Bay Area VMA

President, Dr. J. W. Harrison.
Vice-President, Dr. George Freilruth.
Secretary-Treasurer, Dr. C. E. Taylor, 2146 Broad St., San Luis Obispo.
Executive Committee, Dr. John E. Craige, Dr. L. E. Chaney.

San Francisco Veterinarians

President, Dr. M. A. Northrup.
Vice-President, Dr. T. M. McIntyre.
Secretary-Treasurer, Dr. H. F. Carroll, 2024 Lombard St., San Francisco 2.
No regular dates.

Orange Belt VMA

President, Dr. R. E. Philbrick.
Vice-President, Dr. R. A. Brunson.
Secretary-Treasurer, Dr. James R. Ketchersid, 666 East Highland Ave., San Bernardino.

Peninsula VMA

President, Dr. E. W. Paul.
Secretary-Treasurer, Dr. S. M. Smith, 4040 El Camino Real, Palo Alto.
Meetings, third Monday of the month.

Redwood Empire VMA

President, Dr. Charles Stafford.
Vice-President.
Secretary-Treasurer, Dr. John Wion, 3164 Redwood Highway, Santa Rosa.
Meetings, third Thursday of the month.

Sacramento Valley VMA

President, Dr. Philip A. Lee.
Vice-President, Dr. Charles W. Riggs.
Secretary-Treasurer, Dr. Paul D. DeLay, Animal Pathology Laboratory, State Office Building No. 1, Sacramento.
Meetings, fourth Friday of the month.

San Diego County VMA

President, Dr. W. W. Myers.
Vice-President, Dr. F. B. Walker, Jr.
Secretary-Treasurer, Dr. R. J. McFarland, 3621 Jewell St., San Diego.
Meetings, fourth Tuesday of the month.

Northern San Joaquin Valley VMA

President, Dr. L. D. Meyers.
Vice-President, Dr. Leslie Burns.
Secretary-Treasurer, Dr. W. W. Worcester, P. O. Box 272, Turlock.
Executive Committee—Officers and Dr. A. J. Ronse, Dr. F. E. Barnes and Dr. A. J. Whitaker.
Meetings, fourth Wednesday of the month.

Southern California VMA

President, Dr. A. Mack Scott.
First Vice-President, Dr. Herbert I. Ott.
Second Vice-President, Dr. K. R. Wilcox.
Secretary-Treasurer, Dr. D. H. McDole, 8674 Melrose Ave., Los Angeles 46.
Meetings, third Wednesday of the month.

Tri-Counties VMA

President, Dr. Alfred E. White, Jr.
Secretary-Treasurer, Dr. Ronald Williams, 930 Coast Highway, Santa Barbara.
No regular dates.

CALIFORNIA STATE VETERINARY MEDICAL ASSOCIATION COMMITTEES

A.V.M.A. Resident Secretary: W. K. Riddell, 3233 W. Florence Ave., Los Angeles.

Executive Committee

Chairman, Floyd White, 3rd and Grand, San Rafael.
F. P. Wilcox, 808 N. Spring St., Los Angeles.
C. E. Wickett, 203 Administration Bldg., Union Stock Yards, Los Angeles.
A. R. Inman, Rt. 2, Box 44, Visalia.
S. T. Michael, 2500 16th St., San Francisco.
Oscar J. Kron, 1386 Golden Gate Ave., San Francisco.
Paul DeLay, Animal Pathology Laboratory, State Office Bldg. No. 1, Sacramento.

Program Committee

Chairman, C. E. Wickett, 203 Administration Bldg., Union Stock Yards, Los Angeles.
Theodore Hage, U. C., Davis.
R. V. Jessup, 910 Crestview Ave., Glendale.
Max Coons, 1546 East Front St., Selma.
H. F. Carroll, 2024 Lombard St., San Francisco 2.

Membership and AVMA Affairs Committee

Chairman, A. R. Inman, Rt. 2, Box 44, Visalia.
Philip Olsen, 7970 Santa Monica Blvd., Los Angeles.
G. P. Bertetta, 2043 Nineteenth Ave., San Francisco.
W. W. Stiern, 17 Niles, Bakersfield.
J. W. Britton, Ridgewood Ranch, Willits.
And all secretaries of local associations.

Ways and Means Committee

Chairman, Harold Groth, 2600 S. El Camino Real, San Mateo.
Thomas Eville, Rt. 1, Box 136 H. Fresno.
E. E. Jones, 1451 Mirasol St., Los Angeles.
E. G. LeDonne, 6200 Rockwell St., Oakland.
Paul C. Lockhart, 940 N. Highland Ave., Hollywood.
W. K. Riddell, 3233 W. Florence Ave., Los Angeles.

Legislative Committee

Chairman, Leo Conti, 2575 Venophon St., San Diego.
A. Mack Scott, 7131 Santa Monica Blvd., Hollywood.
B. F. Murray, 8331 College Ave., Oakland.
I. N. Bohlander, Box 588, Turlock.
Philip A. Lee, 2647 Stockton Blvd., Sacramento.

Resolutions Committee

Chairman, H. S. Cameron, U. C., Davis.
R. R. Smith, 1855 Torrance Blvd., Torrance.
D. H. McDole, 8674 Melrose Ave., Los Angeles.
N. M. Twisselmann, 1246 Madison Ave., Bakersfield.
M. L. Boevers, P. O. Box 834, Lafayette.

Disease Control Committee

Chairman, Gaylord Cooke, City Hall Annex, Berkeley.
R. A. Bankowski, U. C., Berkeley.
V. C. Bunker, Rt. 1, Box 512, Escondido.
G. H. Kenaston, 157 S. "E" St., San Bernardino.
Raymond Sprowl, 11758 San Vincente, Los Angeles.
W. I. Dill, 11207 San Fernando Rd., San Fernando.

Humane Organizations Committee

Chairman, E. C. Jones, 9088 Santa Monica Blvd., Hollywood.
N. L. McBride, Jr., 2204 Foothill Extension, Pasadena.
C. J. Parshall, 530 Fulton St., San Francisco.
A. L. Kelly, San Diego Zoo.
T. A. Berry, 2101 Milvia St., Berkeley.

Committee on History

Chairman, J. M. Arbutus, 26 Fell St., San Francisco.
C. M. Haring, 2405 Hillside Ave., Berkeley.
Ross Hurt, 4500 Downey Rd., Los Angeles 11.
C. W. Closson, 419 Leslie Dr., San Gabriel.
Charles Reid, P. O. Box 735, Hollywood.

State Committee on Ethics

Chairman, J. A. Jones, 5655 Whittier Blvd., Los Angeles.
J. W. Harrison, 182 Chanticleer Ave., Santa Cruz.
K. R. Wilcox, 1434 W. Slauson Ave., Los Angeles.
C. E. Taylor, 2146 Broad St., San Luis Obispo.
R. P. Swartz, 1000 Napa Rd., Box 373, Vallejo.
J. M. King, 1266 Clark Way, San Jose.

Delegates to AVMA

Delegate, Carl E. Wickett, 203 Administration Bldg., Union Stock Yards, L. A.
Alternate Delegate, F. P. Wilcox, 808 N. Spring St., Los Angeles, 12.

Canine Distemper

VACCINE (Intradermal)

Over one-quarter million doses of Canine Distemper Vaccine (Intradermal) have been administered within the first full year of its use. Satisfaction (within the profession) has reached an unbelievable high of over 99% of the users, which is the best measure of its efficiency.

Intradermal vaccine is SAFE. It is incapable of producing distemper in animals during the immunizing period, or of producing distemper in animals coming in contact with those being immunized.

ANTI-SERUM

Lockhart's Anti-Canine Distemper Serum is the therapeutic agent of choice, and when given in usual doses, affords adequate passive immunity to meet the demands of discriminating veterinarians.

Ashe Lockhart, Inc., has had longer experience in producing anti-canine distemper serum than any competitive firm.

*"Producers of Better Biologics
for Graduate Veterinarians."*

ASHE LOCKHART, INC.

800 Woodswether Road

Kansas City 6, Missouri

Write for new edition



Licensed, graduate veterinarians, and veterinary students, are invited to write for desk copy. No obligation.

VpC Feed Formula Book (15th revision) suggests how to bolster and fortify home crops to make sound feeds for all livestock and poultry. Gives a chart covering the functions of 7 trace minerals. Another chart describing 8 vitamins. An analysis table of 70 common feed stuffs, with other pertinent feeding facts.

Tells why it is wise, and profitable, for the farmer and feeder to consult his veterinarian on nutritional difficulties as well as on organic diseases.

Veterinary Medical Center
Box 588, Turlock, Cal.

Distributors for

VITAMINERAL PRODUCTS CO., PEORIA 3, ILLINOIS
Via-D-Mineral . . Con-o-mineral . . Viamineral . . Viaferm

PROFESSIONAL GROUP ACCIDENT & SICKNESS POLICY

FOR MEMBERS OF

THE CALIFORNIA STATE VETERINARY MEDICAL ASSOCIATION

MONTHLY ACCIDENT

INDEMNITY \$200⁰⁰
(TOTAL DISABILITY)

MONTHLY ACCIDENT

INDEMNITY \$100⁰⁰
(PARTIAL DISABILITY)

MONTHLY SICKNESS

INDEMNITY \$200⁰⁰
(TOTAL DISABILITY)

ACCIDENTAL DEATH

INDEMNITY \$1,000⁰⁰

Indemnity for Dismemberment and Loss of Sight by Accident

For LOSS of Both Hands, or Both Feet, or One Hand and One Foot, or Entire Sight of Both Eyes . . **\$10,000⁰⁰**

For LOSS of One Hand or One Foot, or Entire Sight of one Eye . **\$5,000⁰⁰**

For LOSS of Thumb and Index Finger of Either Hand **\$2,500⁰⁰**

SEMI-ANNUAL PREMIUMS

Ages thru 49
\$33²⁵

Ages 50 thru 59
\$39⁷⁰

Ages 60 to 65
\$49³⁸

All inquiries should be addressed to Mr. Charles S. Travers, Executive Secretary, California State Veterinary Medical Association, 3004 16th Street, San Francisco, or direct to the

NATIONAL CASUALTY COMPANY

605 MARKET STREET
SAN FRANCISCO • GARfield 1-7716

Sex hormones

for Male and Female

have become important in modern veterinary therapy. These active hormone preparations are available to the veterinary profession for parenteral use, as follows:

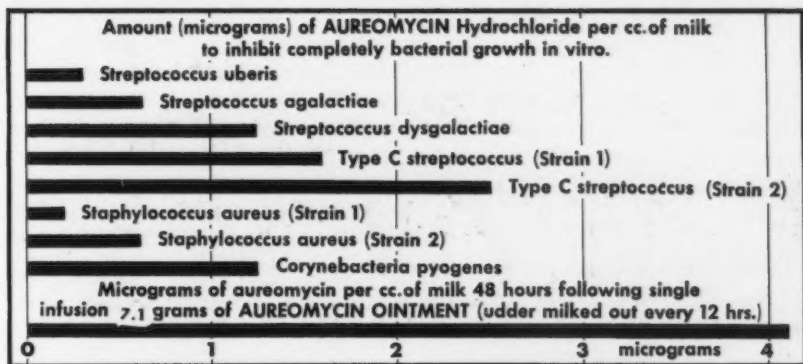
<p>TESTOSTERONE <i>In Aqueous Suspension</i></p> <p>A free androgenic substance for cryptorchidism, difficult mating and sexual debility in males.</p> <p><i>Dose:</i> S. A. $\frac{1}{2}$ to 1 cc.; L. A. 2 to 5 cc., repeated 2 or 3 times weekly, as indicated.</p> <p>Pkg. 10 cc. vial (250 mg.) \$3.25</p>	<p>CHORIONIC GONADOTROPIN <i>(Lyophilized)</i></p> <p>Aids in establishing normal estrual rhythm in cows and mares suffering from nymphomania due to cystic ovaries.</p> <p><i>Dose:</i> 2,500 units intravenously or 10,000 units intramuscularly.</p> <p>Pkg. 10,000 units, with solvent . \$8.00 Pkg. 2,500 units, with solvent . 3.00</p>
<p>STILBESTROL <i>(Synthetic Estrogen)</i></p> <p>Used for the stimulation of estrus and lactation and for treating pyometra, uterine inertia, and vaginitis.</p> <p><i>Dose:</i> L. A. 10 to 50 mg.; S. A. $\frac{1}{4}$ to 2 mg., repeated if necessary.</p> <p>Pkg. 25 cc. (250 mg.) \$1.00 Pkg. 6-10 cc. vials (each 20 mg.) for S. A. 1.75</p>	<p>A. P. GODIN <i>(Lyophilized)</i></p> <p>A bioassayed anterior pituitary preparation for correcting functional subnormality of ovaries and testes.</p> <p><i>Dose:</i> Cattle and horses, 10 cc. solution, other animals according to size and condition.</p> <p>Pkg. 10 cc. vial, with solvent ... \$3.40</p>

HAVER-GLOVER LABORATORIES

Sharpe & Co.
7223 Melrose Ave.
Los Angeles 46, Calif.

Home Office:
Haver-Glover Laboratories
Kansas City 10, Mo.

Central City Chem. Con'd.
617 Howard St.
San Francisco 5, Calif.



A single tube of AUREOMYCIN OINTMENT Lederle will maintain a concentration of aureomycin in the milk and udder for 48 hours, which is bacteriostatic for the bacteria which cause mastitis. This concentration will be maintained even though the udder is milked out every 12 hours.

AUREOMYCIN HYDROCHLORIDE OINTMENT

Lederle

For Outstanding Effectiveness in the Treatment of Mastitis

AUREOMYCIN—the antibiotic with the broadest range of effectiveness known is now available as AUREOMYCIN OINTMENT Lederle for udder infusion in the treatment of mastitis.

Each individual, single-dose collapsible tin tube, with a removable label for dispensing purposes, contains in excess of 200 milligrams of AUREOMYCIN, incorporated in $\frac{1}{4}$ ounce of a nonirritating, colorless, odorless, special type, lighter-than-milk ointment base.

Results obtained from the use of AUREOMYCIN Hydrochloride OINTMENT Lederle, by recognized authorities in representative dairy herds, indicate that aureomycin is more effective against both streptococcal and staphylococcal mastitis than penicillin or any other chemotherapeutic agent or combination of agents now available.

A SINGLE INFUSION with AUREOMYCIN Hydrochloride OINTMENT Lederle has proved sufficient to clear up over 90 per cent of all cases of *Streptococcus agalactiae* mastitis and over 70 per cent of all cases of staphylococcal mastitis. Most of these cases were long standing and had proved resistant to repeated treatments with other agents. All quarters, except a few showing advanced staphylococcal mastitis, that did not clear up following a single infusion, recovered following a single infusion of two tubes of ointment per quarter, or 2 to 3 infusions of a single tube at 48-hour intervals.

On the basis of laboratory tests, AUREOMYCIN Hydrochloride OINTMENT Lederle should prove an effective treatment for *Streptococcus dysgalactiae*, *Streptococcus uberis*, *Corynebacteria*, and *E. coli* udder infections.

PACKAGES: $\frac{1}{4}$ oz. tubes

LEDERLE LABORATORIES DIVISION

AMERICAN Cyanamid COMPANY

30 ROCKEFELLER PLAZA

NEW YORK 20, N. Y.



The Completely Different Treatment so Successfully used following a Clinical Diagnosis of Acute or Chronic Bovine Mastitis.

Administered to both Lactating and Dry Cows.



May be purchased only in the State of California



IN EVER-INCREASING DEMAND FOR CANINE DISTEMPER PROPHYLAXIS

Briefly, these few words sum up the 16 year history of the tried and proved product officially known as Canine Distemper Vaccine in Bronchisepticus-Streptococcus-Typhimurium Bacterin (VIROGEN) (Bio. 666).

Year after year the demand continues to increase for—

'VIROGEN'

Within this organization
originated the policy
of Sales to Graduate
Veterinarians, Only.

PITMAN MOORE COMPANY
PHARMACEUTICAL AND BIOLOGICAL CHEMISTS
DIVISION OF ALLIED LABORATORIES INC., INDIANAPOLIS 6, INDIANA

Section 34.66, P. L. & R.

U. S. POSTAGE

PAID

SAN FRANCISCO, CALIF.
PERMIT 1772

POSTMASTER—Return postage guaranteed by California State Veterinary Medical Assn., 3004 16th Street, San Francisco 3, California. If forwarded to a new address notify sender on Form 3547. Postage for notice guaranteed.



• QUICK RECOVERIES
• FEWER RELAPSES

Selective

**CALCIUM
THERAPY**
with...



Important Advantage: Jen-Sal calcium solutions can be given safely by intramuscular, subcutaneous, intraperitoneal and intravenous injection... due to an exclusive Jen-Sal process which effectively controls the content of irritating ionized calcium.

Jen-Sal

C·B·G



Product of choice in uncomplicated milk fever, acute rachitis or spasmophilia and eclampsia. Also in collateral treatment of the dermatoses, wasp and bee stings and as an antidote for DDT poisoning.

C.B.G. contains 25.7% Calcium Borogluconate made from organic source calcium under U. S. Patent.

500 cc. Bottles: 12—\$8.00

Jen-Sal

D·C·M



Product of choice in complicated milk fever, grass tetany, railroad sickness, wheat poisoning, acetonemia, forage poisonings, toxemia and in other syndromes with low blood levels of magnesium as well as calcium.

D.C.M. contains 18% Calcium Borogluconate, 6.5% Magnesium Borogluconate and 14% Dextrose with traces of phosphates.

500 cc. Bottles: 12—\$8.40

CP-1

WRITE FOR QUANTITY DISCOUNTS

JENSEN-SALSBERY

CALIFORNIA DEPOT
Phone Mutual 2725

Box 2945 Terminal Annex
LOS ANGELES 54, CALIF.



R. L.

ALIF

telat
ardet
arect

he
DT

ad
nia
as